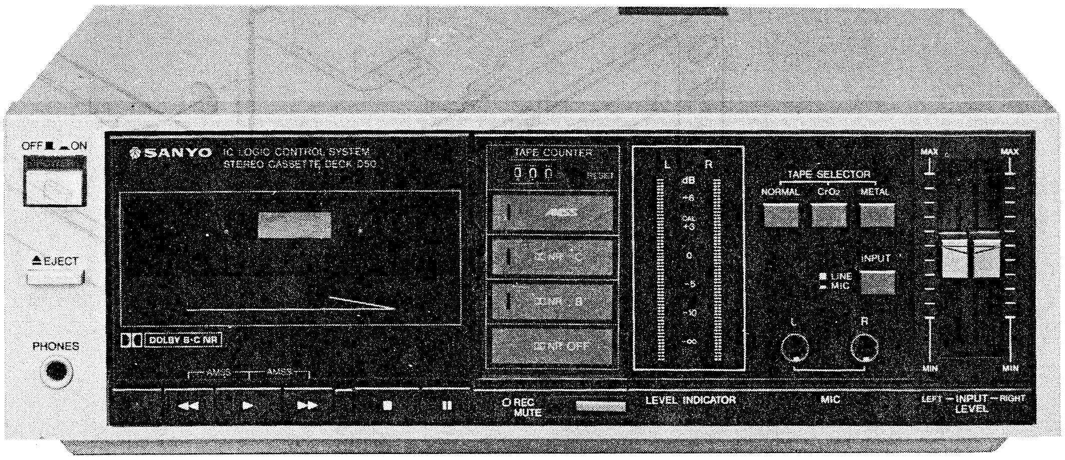
SERVICE MANUAL

SANYO

CASSETTE TAPE DECK

D50

(EUROPE)


OFF ON
SANYO IC LOGIC CONTROL SYSTEM
STEREO CASSETTE DECK D50
EJECT
PHONES
DOLBY B·C NR
AMSS
TAPE COUNTER
RESET
NR C
NR B
NR OFF
REC MUTE
L R
dB
+6
CAL +3
0
-5
-10
-∞
LEVEL INDICATOR
TAPE SELECTOR
NORMAL
CrO2
METAL
INPUT
LINE
MIC
L
R
MIC
MAX
MIN
LEFT — INPUT — RIGHT
LEVEL

SPECIFICATIONS

NOTE:

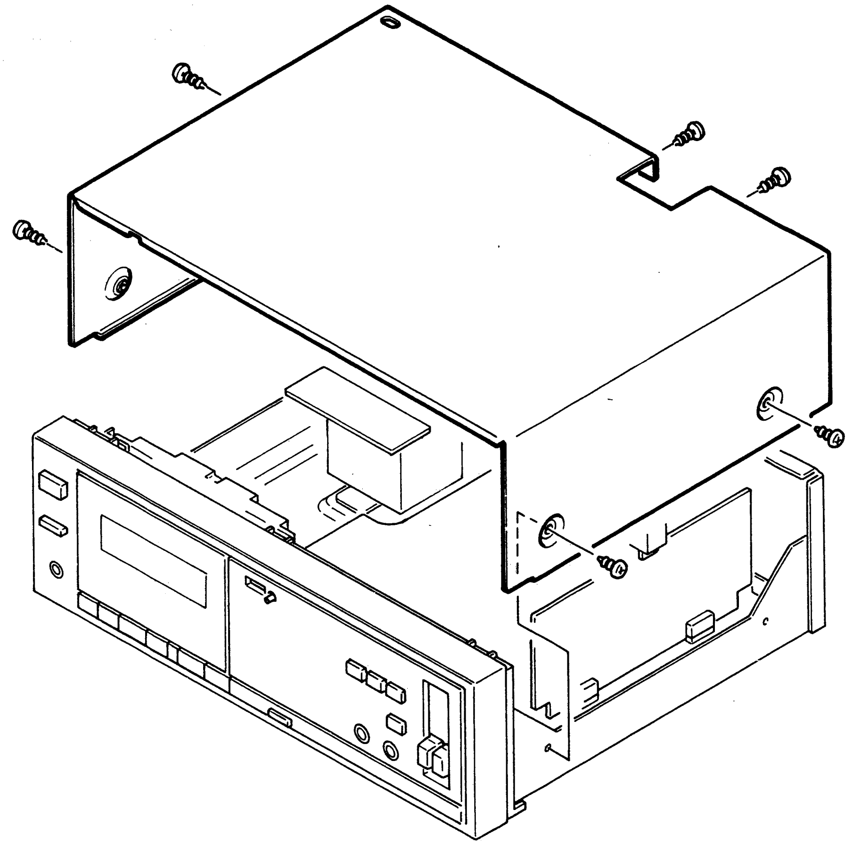
The below mentioned specifications are mainly based on the IHF measurements standard. They can therefore not directly be compared with specifications based on the DIN standard or other standards.

Tape	Metal, CrO2, normal tape
Recording system	AC bias, 4-track stereo
Erasing system	AC erasing, 2-track
Tape speed	4.75 cm/sec. (1-7/8 i.p.s.)
Rewind and fast forward time	Approx. 90 sec. (C–60)
Wow and flutter	0.06% (WRMS)
Frequency response	30 – 17,000 Hz (metal)
	30 – 16,000 Hz (CrO2)
	30 – 13,000 Hz (normal)
Signal to noise ratio (metal tape)	77 dB (Dolby C-NR on)
	57 dB (Dolby NR off)
Inputs	MIC: 400 ohms to 10 kohms (0.3 mV)
Outputs	PHONES: 8 ohms to 10 kohms
Power requirements	AC: 220 V, 50 Hz
Power consumption	25 W
Dimensions (Approx.)	335 (W) x 270 (D) x 102 (H) mm
	(13-1/4" x 10-5/8" x 4")
Weight (Approx.)	3.5 kg (8 lbs.)

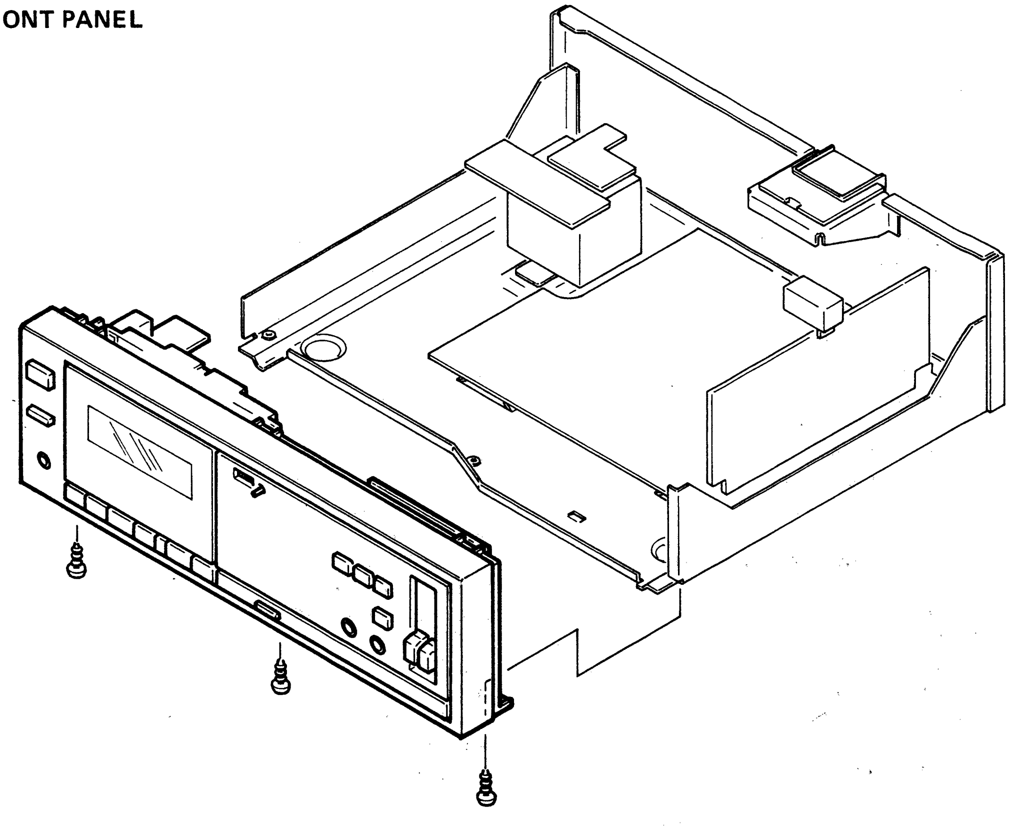
* Specifications subject to change without notice.

DISASSEMBLY

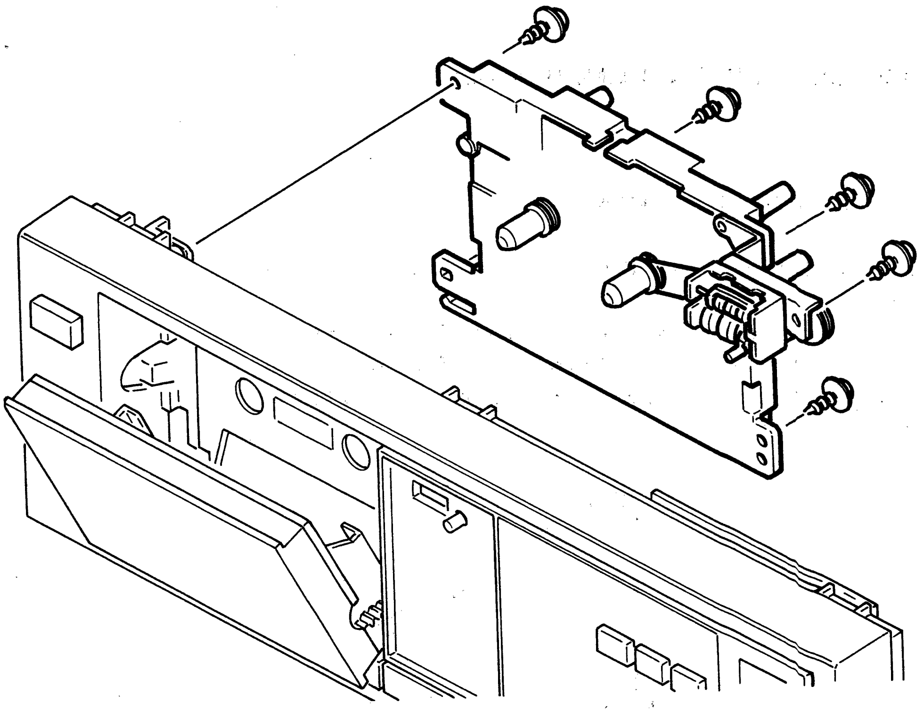
REMOVAL OF CABINET



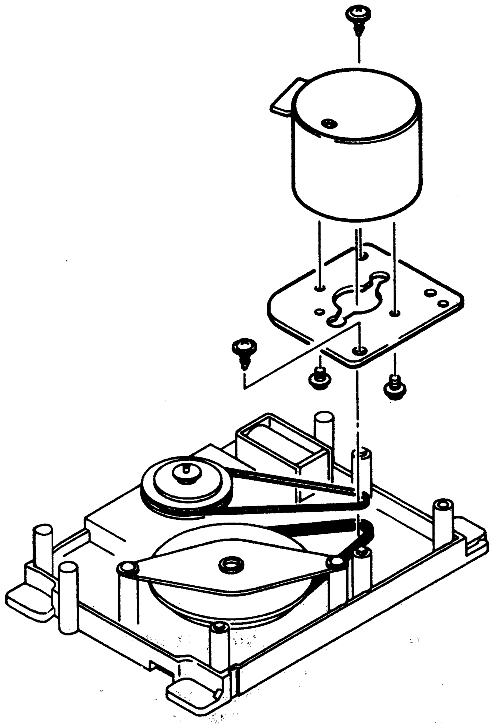
REMOVAL OF FRONT PANEL



REMOVAL OF MECHANISM

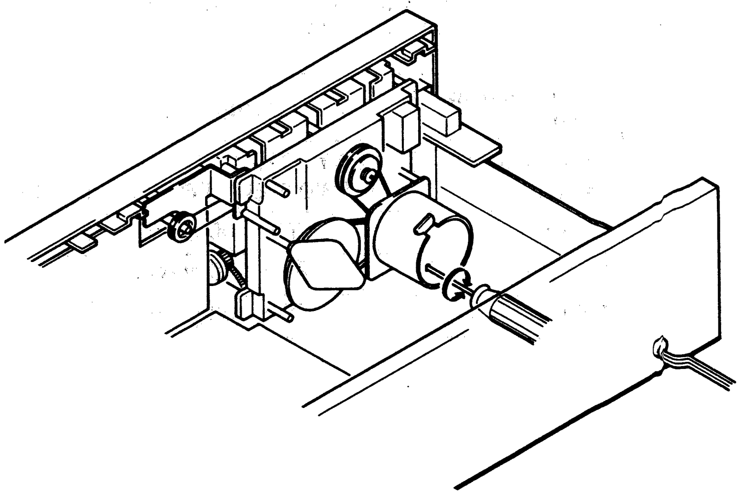


REPLACEMENT OF MOTOR & BELT



MOTOR SPEED ADJUSTMENT

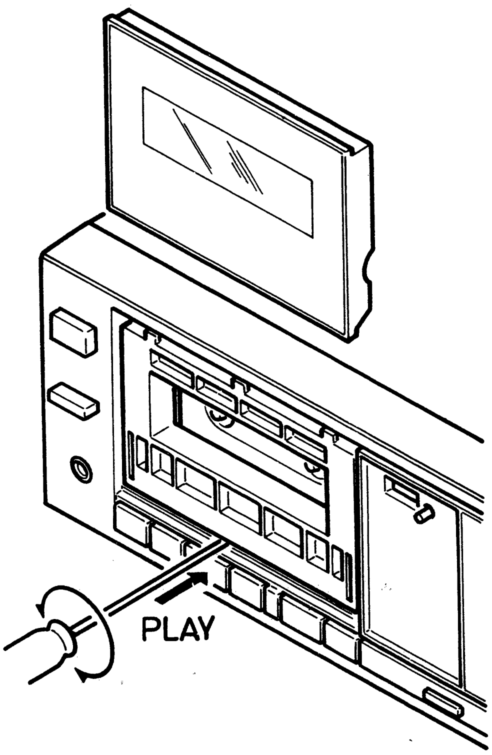
Play back the test tape (such as MTT-111, 3 kHz, for instance), and turn the SVR located on the back of motor with a blade screwdriver so that the frequency counter registers 3,000 Hz.



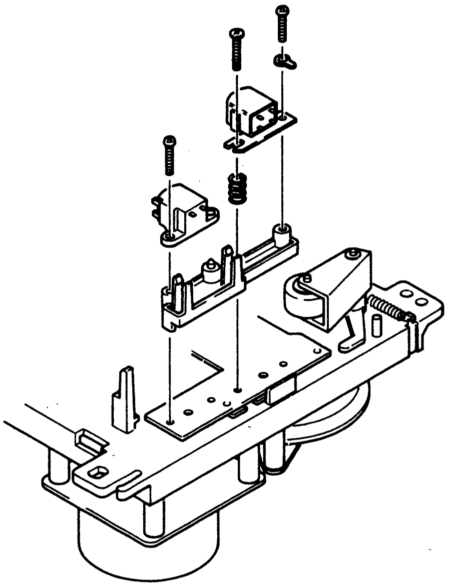
HEAD REPLACEMENT & AZIMUTH ADJUSTMENT

HEAD AZIMUTH ADJUSTMENT

After replacing the head, demagnetize the head with head eraser.
Prior the adjustment, perform head cleaning. Play back the test tape for azimuth adjustment (such as VTT-658, 10 kHz, for instnace), and turn the azimuth adjusting screw with a Phillips becomes the maximum.



HEAD REPLACEMENT

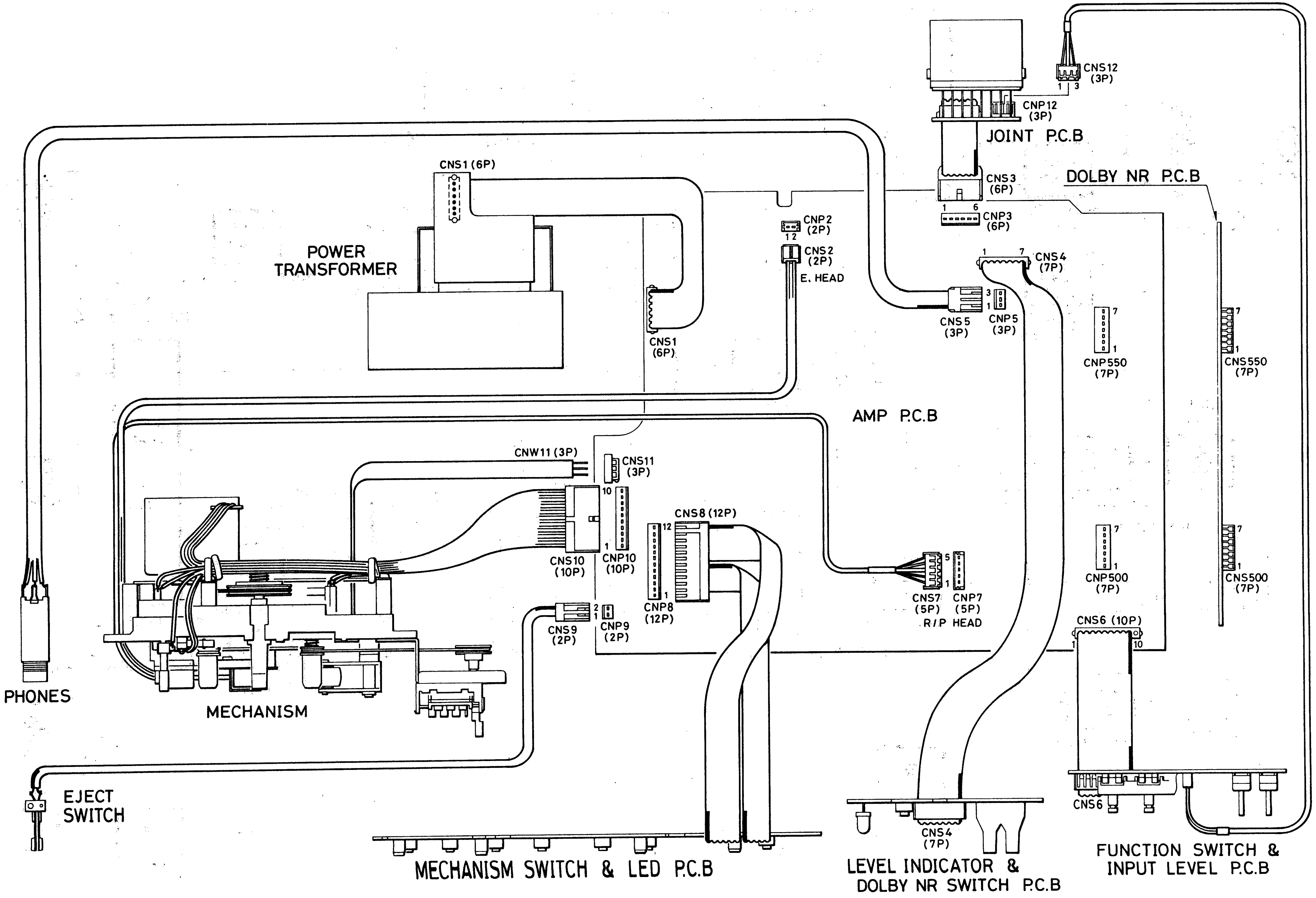


ADJUSTMENT OF MECHANISM

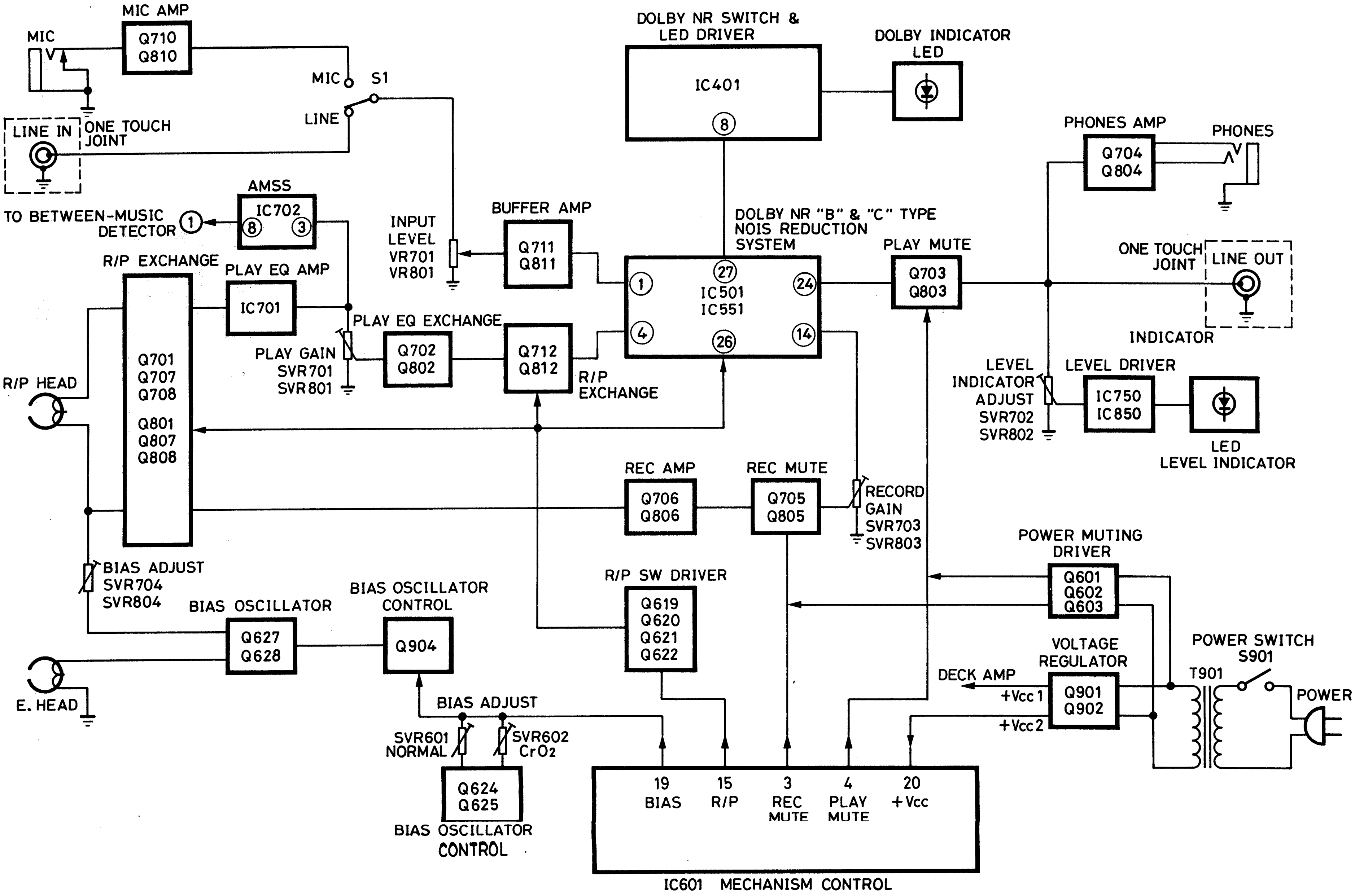
Prior to measurement, clean the head, capstan and pinch roller.
Confirm of the followings torques and tension.

Measurement Item	Take-up torque	Back tension	Pulley tension
Measurement cassette	PLAY : TW-2111 F•FWD/REW: TW-2231	PLAY/F•FWD: TW-2111 REW: Torque gage	Drive power cassette TW-2412
PLAY	30 ~ 60 gr•cm	3 ~ 5 gr•cm	>120g
F.FWD	70 ~ 160 gr•cm	3 ~ 5 gr• cm	
REW	70 ~ 160 gr• cm	3 ~ 5 gr•cm	

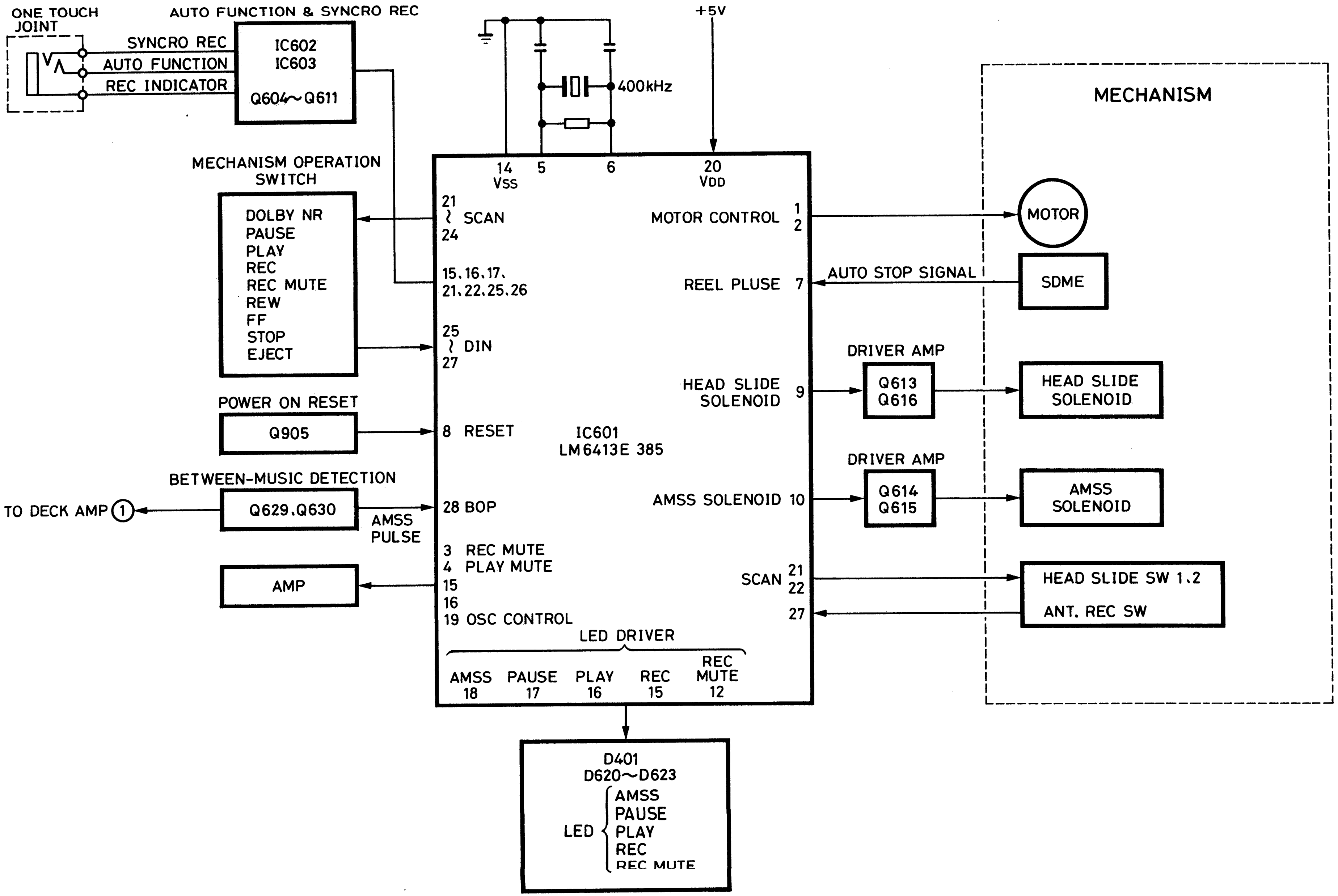
SOCKETS & PLUG CONNECTION DIAGRAM


JOINT P.C.B
CNS12 (3P)
1 3
CNP12 (3P)
CNS3 (6P)
1 6
CNP3 (6P)
DOLBY NR P.C.B
CNS1 (6P)
POWER TRANSFORMER
CNS1 (6P)
CNP2 (2P)
1 2
CNS2 (2P)
E. HEAD
1 7
CNS4 (7P)
3
1
CNS5 (3P)
CNP5 (3P)
7
1
CNP550 (7P)
7
1
CNS550 (7P)
AMP P.C.B
CNW11 (3P)
CNS11 (3P)
10
1
CNS10 (10P)
CNP10 (10P)
CNS8 (12P)
12
1
CNP8 (12P)
5
1
CNS7 (5P)
CNP7 (5P)
R/P HEAD
7
1
CNP500 (7P)
7
1
CNS500 (7P)
2
1
CNS9 (2P)
CNP9 (2P)
CNS6 (10P)
1
10
PHONES
MECHANISM
EJECT SWITCH
MECHANISM SWITCH & LED P.C.B
CNS4 (7P)
LEVEL INDICATOR & DOLBY NR SWITCH P.C.B
CNS6
FUNCTION SWITCH & INPUT LEVEL P.C.B

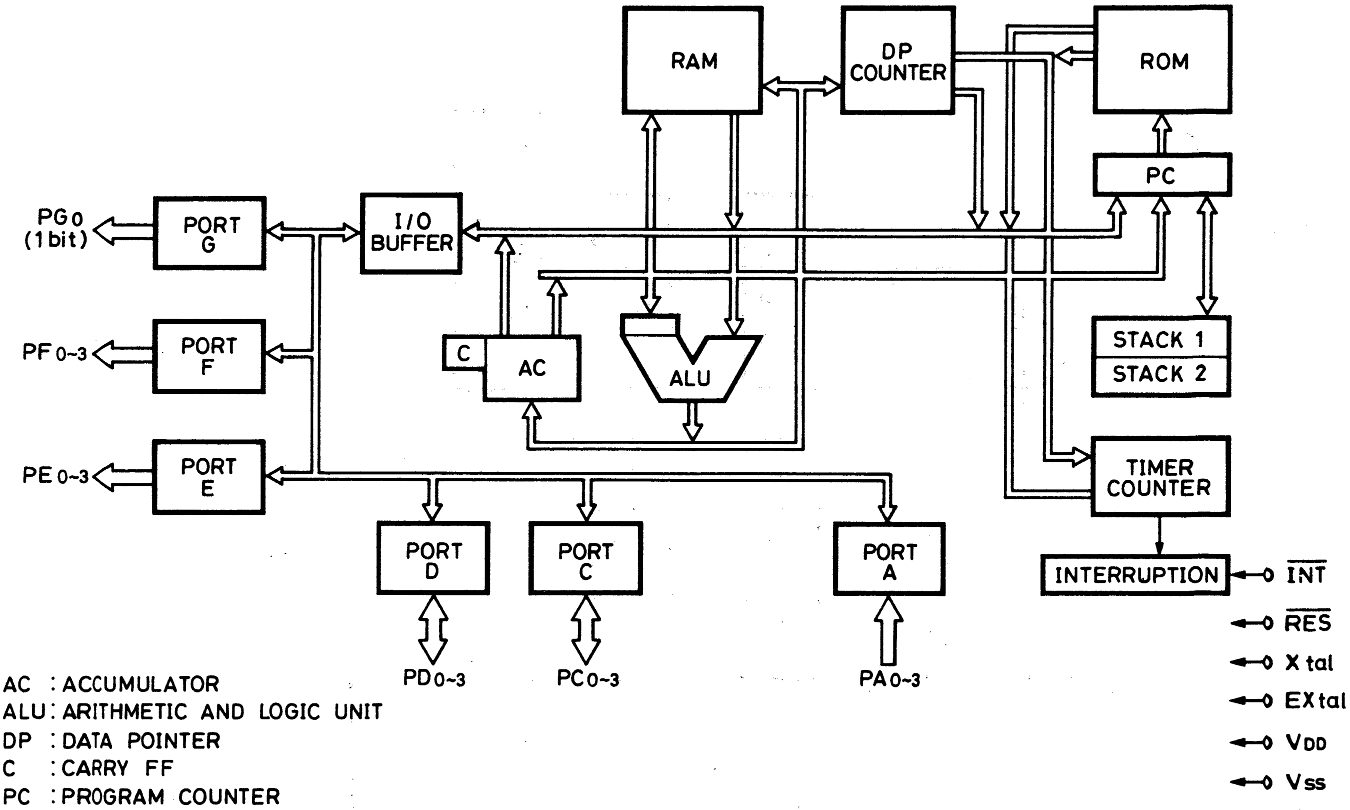
BLOCK DIAGRAM (AMP)


MIC AMP
MIC
Q710
Q810
MIC
S1
LINE
LINE IN
ONE TOUCH JOINT
AMSS
IC702
⑧
③
TO BETWEEN-MUSIC DETECTOR
①
R/P EXCHANGE
PLAY EQ AMP
IC701
INPUT LEVEL
VR701
VR801
BUFFER AMP
Q711
Q811
DOLBY NR SWITCH & LED DRIVER
IC401
⑧
DOLBY INDICATOR LED
DOLBY NR "B" & "C" TYPE NOIS REDUCTION SYSTEM
IC501
IC551
①
④
㉗
㉖
㉔
⑭
PLAY MUTE
Q703
Q803
PHONES AMP
Q704
Q804
PHONES
ONE TOUCH JOINT
LINE OUT
INDICATOR
PLAY EQ EXCHANGE
PLAY GAIN
SVR701
SVR801
Q702
Q802
Q712
Q812
R/P EXCHANGE
R/P HEAD
Q701
Q707
Q708
Q801
Q807
Q808
LEVEL INDICATOR ADJUST
SVR702
SVR802
LEVEL DRIVER
IC750
IC850
LED LEVEL INDICATOR
REC AMP
Q706
Q806
REC MUTE
Q705
Q805
RECORD GAIN
SVR703
SVR803
POWER MUTING DRIVER
Q601
Q602
Q603
BIAS ADJUST
SVR704
SVR804
BIAS OSCILLATOR
Q627
Q628
BIAS OSCILLATOR CONTROL
Q904
R/P SW DRIVER
Q619
Q620
Q621
Q622
VOLTAGE REGULATOR
Q901
Q902
DECK AMP
+Vcc 1
+Vcc 2
POWER SWITCH
S901
T901
POWER
E. HEAD
BIAS ADJUST
SVR601 NORMAL
SVR602 CrO2
Q624
Q625
BIAS OSCILLATOR CONTROL
19 BIAS
15 R/P
3 REC MUTE
4 PLAY MUTE
20 +Vcc
IC601 MECHANISM CONTROL

BLOCK DIAGRAME (MECHANISM)


ONE TOUCH JOINT
AUTO FUNCTION & SYNCRO REC
SYNCRO REC
AUTO FUNCTION
REC INDICATOR
IC602
IC603
Q604~Q611
400kHz
+5V
14 VSS
5
6
20 VDD
MECHANISM OPERATION SWITCH
DOLBY NR
PAUSE
PLAY
REC
REC MUTE
REW
FF
STOP
EJECT
21 ~ 24 SCAN
15, 16, 17, 21, 22, 25, 26
25 ~ 27 DIN
POWER ON RESET
Q905
8 RESET
IC601
LM6413E 385
BETWEEN-MUSIC DETECTION
TO DECK AMP ①
Q629, Q630
AMSS PULSE
28 BOP
AMP
3 REC MUTE
4 PLAY MUTE
15
16
19 OSC CONTROL
LED DRIVER
AMSS 18
PAUSE 17
PLAY 16
REC 15
REC MUTE 12
MOTOR CONTROL 1 2
REEL PLUSE 7
AUTO STOP SIGNAL
HEAD SLIDE SOLENOID 9
AMSS SOLENOID 10
SCAN 21 22
27
DRIVER AMP
Q613
Q616
DRIVER AMP
Q614
Q615
MECHANISM
MOTOR
SDME
HEAD SLIDE SOLENOID
AMSS SOLENOID
HEAD SLIDE SW 1, 2
ANT. REC SW
D401
D620~D623
LED
AMSS
PAUSE
PLAY
REC
REC MUTE

IC300 BLOCK DIAGRAM (LM6413E)


RAM
DP COUNTER
ROM
PC
STACK 1
STACK 2
TIMER COUNTER
INTERRUPTION
I/O BUFFER
C
AC
ALU
PORT G
PORT F
PORT E
PORT D
PORT C
PORT A
PG0 (1bit)
PF0~3
PE0~3
PD0~3
PC0~3
PA0~3
INT
RES
X tal
EXtal
VDD
Vss

AC : ACCUMULATOR
ALU: ARITHMETIC AND LOGIC UNIT
DP : DATA POINTER
C : CARRY FF
PC : PROGRAM COUNTER

MECHANISM OPERATING MODE & TIMING CHART

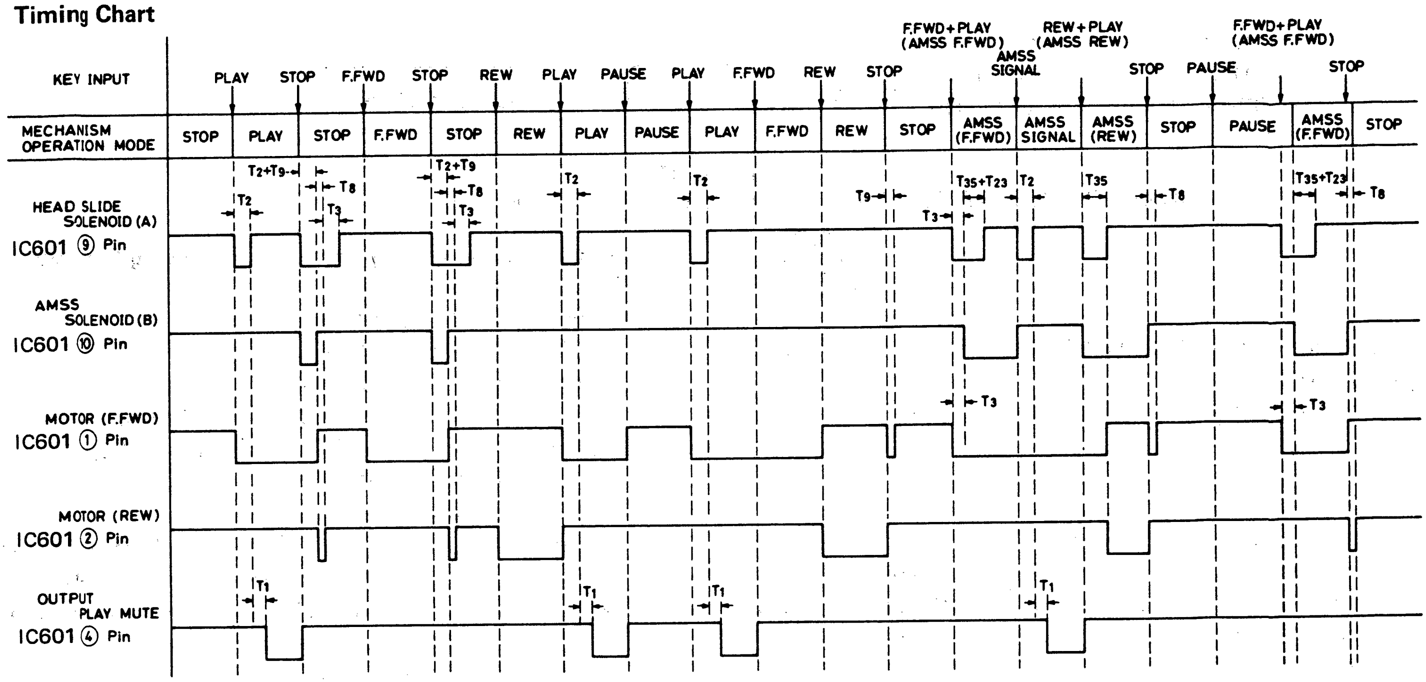
Operating Mode

Input signal / Existing output mode	New output mode										
	STOP	F.FWD	REW	PLAY	PAUSE	REC	REC MUTE	REC/PLAY	REC/PAUSE	PLAY/F.FWD	PLAY/REW
STOP	–	F.FWD	REW	PLAY	PAUSE	REC–PAUSE	–	REC/PLAY	REC/PAUSE	AMSS F.FWD	AMSS REW
F.FWD	STOP	–	REW	PLAY	–	–	–	REC/PLAY	–	AMSS F.FWD	AMSS REW
REW	STOP	F.FWD	–	PLAY	–	–	–	REC/PLAY	–	AMSS F.FWD	AMSS REW
PLAY	STOP	F.FWD	REW	–	PAUSE	–	–	REC/PLAY	REC/PAUSE	AMSS F.FWD	AMSS REW
PAUSE	STOP	F.FWD	REW	PLAY	–	REC/PAUSE	–	REC/PLAY	REC/PAUSE	AMSS F.FWD	AMSS REW
REC/PLAY	STOP	F.FWD	REW	REC/PLAY	REC/PAUSE	–	REC MUTE	–	REC/PAUSE	AMSS F.FWS	AMSS REW
REC/PAUSE	STOP	F.FWD	REW	REC/PLAY	–	–	–	REC/PLAY	–	AMSS F.FWD	AMSS REW
REC/MUTE	STOP	F.FWD	REW	REC/PLAY	REC/PLAY	–	–	REC/PLAY	REC/PAUSE	AMSS F.FWD	AMSS REW

1. A dash (–) indicates that the existing operating mode does not change.
2. Pause is cancelled with PLAY key.

MECHANISM OPERATING MODE & TIMING CHART

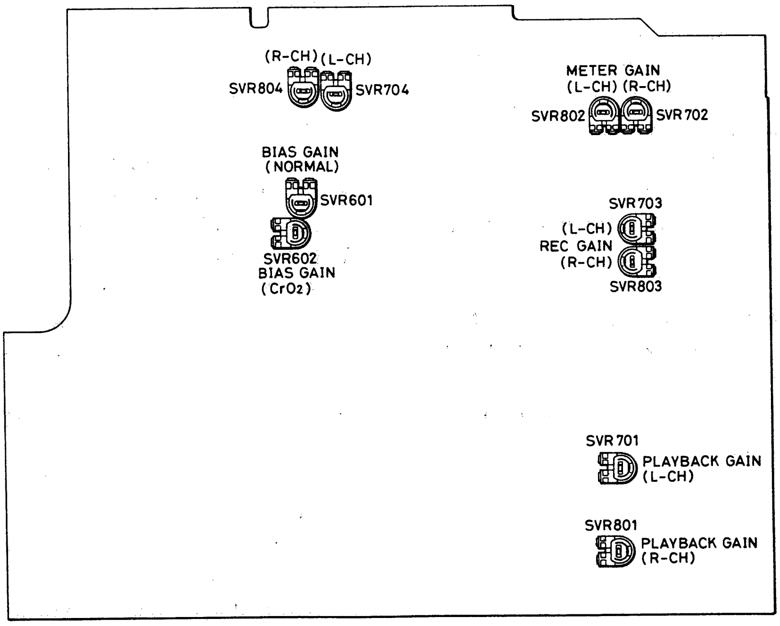
Timing Chart



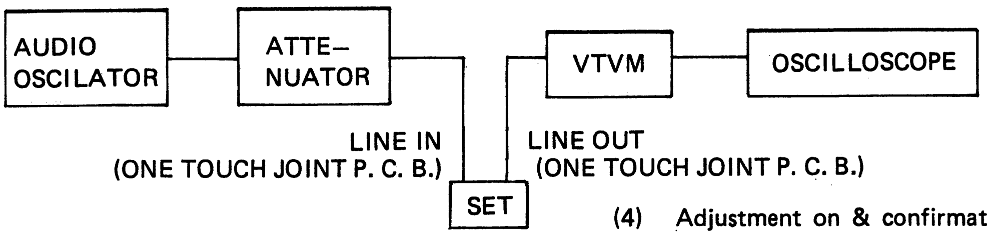
T_1 =350 (m/sec)
T_2 =200
T_3 =150
T_{35} =250
T_{23} =250
T_8=T_9=35

F. FWD + PLAY: After depressing F. FWD key, depress PLAY key without releasing the F. FWD key.
PLAY + REW: After depressing PLAY key, depress REW key without releasing the PLAY key.
PLAY/F. FWD: Simultaneous depressing of PLAY and F. FWD keys.

PARTS LOCATION


(R-CH) (L-CH)
SVR804
SVR704
METER GAIN
(L-CH) (R-CH)
SVR802
SVR702
BIAS GAIN (NORMAL)
SVR601
SVR602
BIAS GAIN (CrO2)
SVR703
(L-CH)
REC GAIN
(R-CH)
SVR803
SVR701
PLAYBACK GAIN (L-CH)
SVR801
PLAYBACK GAIN (R-CH)

ADJUSTMENT OF AMPLIFIER UNIT


AUDIO OSCILATOR
ATTE-NUATOR
VTVM
OSCILLOSCOPE
LINE IN (ONE TOUCH JOINT P. C. B.)
LINE OUT (ONE TOUCH JOINT P. C. B.)
SET

- * Adjust as follows after cleaning the head and adjusting its azimuth properly.
- * Set the input switch at the LINE side.

(1) Adjustment on playback output

DOLBY NR switch: OFF
TAPE switch: NORMAL
Test tape: MTT-150 (Dolby tape)

Play back the test tape, and adjust SVR701 (L-channel) and SVR801 (R-channel) so that the playback output becomes 0.54V.

(2) Adjustment of level meter.

DOLBY NR switch: OFF
Tape switch: NORMAL
Test tape: MTT-150 (Dolby tape)

Play back test tape, and adjust SVR702 (L-channel) and SVR802 (R-channel) so that the "+ 3dB" LED of level meter begins to light up.

(3) Adjustment on recording & playback output

DOLBY NR switch: OFF
TAPE switch: NORMAL
Input signal: –18 dB, 1 kHz
Tape used: NORMAL (such as AC-223)

1. Introduce the input signal to the recording input terminal, and momentarily stop the desk under the recording state.
2. Turn the input level control (adjusting knob) so that the recording monitor output becomes 0.4V.
3. Record this input signal.
4. Depress REW button to rewind the tape to where recording was started.
5. Depress PLAY button.
6. Confirm that the recording & playback output is 0.4V.
7. If not, adjust SVR703 (L-channel) and SVR803 (R-channel).
8. Repeat the foregoing steps 3 ~ 7 so that the recording & playback output becomes 0.4V.

(4) Adjustment on & confirmation of recording & playback frequency response

(4.1) Adjustment with METAL tape

DOLBY NR switch: OFF
Tape switch : METAL
Input signal: –38 dB (1 kHz, 10 kHz)
Tape used: METAL (such as AC-712)

1. Set the input level control in the same position as set in the previous adjustment (3)
2. Attenuate the input signal from –18 dB level of the previous adjustment (3) further by 20 dB to –38 dB level.
3. Switch over the frequency of audio frequency oscillator from 1 kHz to 10 kHz, and excute recording.
   (1 kHz → 10 kHz → 1 kHz → 10 kHz)
4. Depress REW button to reqind the tape to where recoring was started.
5. Depress PLAY button.
6. Taking the playback output value of 1 kHz as 0 dB, confirm that the value of 10 kHz is within ± 1 dB.
7. If this playback output value is not within ± 1 dB, adjust SVR704 (L-chanel) and SVR804 (R-channel).
8. Repeat the foregoing steps 3 ~ 7.
9. After adjusting with METAL tape, also carry out adjustmet with NORMAL and CHROME (CrO2) tapes in order of the following adjustments (4.2) & (4.3).

(4.2) Adjustment with NORMAL tape

TAPE switch: NORMAL
Input signal: –38 dB (1 kHz, 10 kHz)
Tape used: NORMAL (such as AC-223)

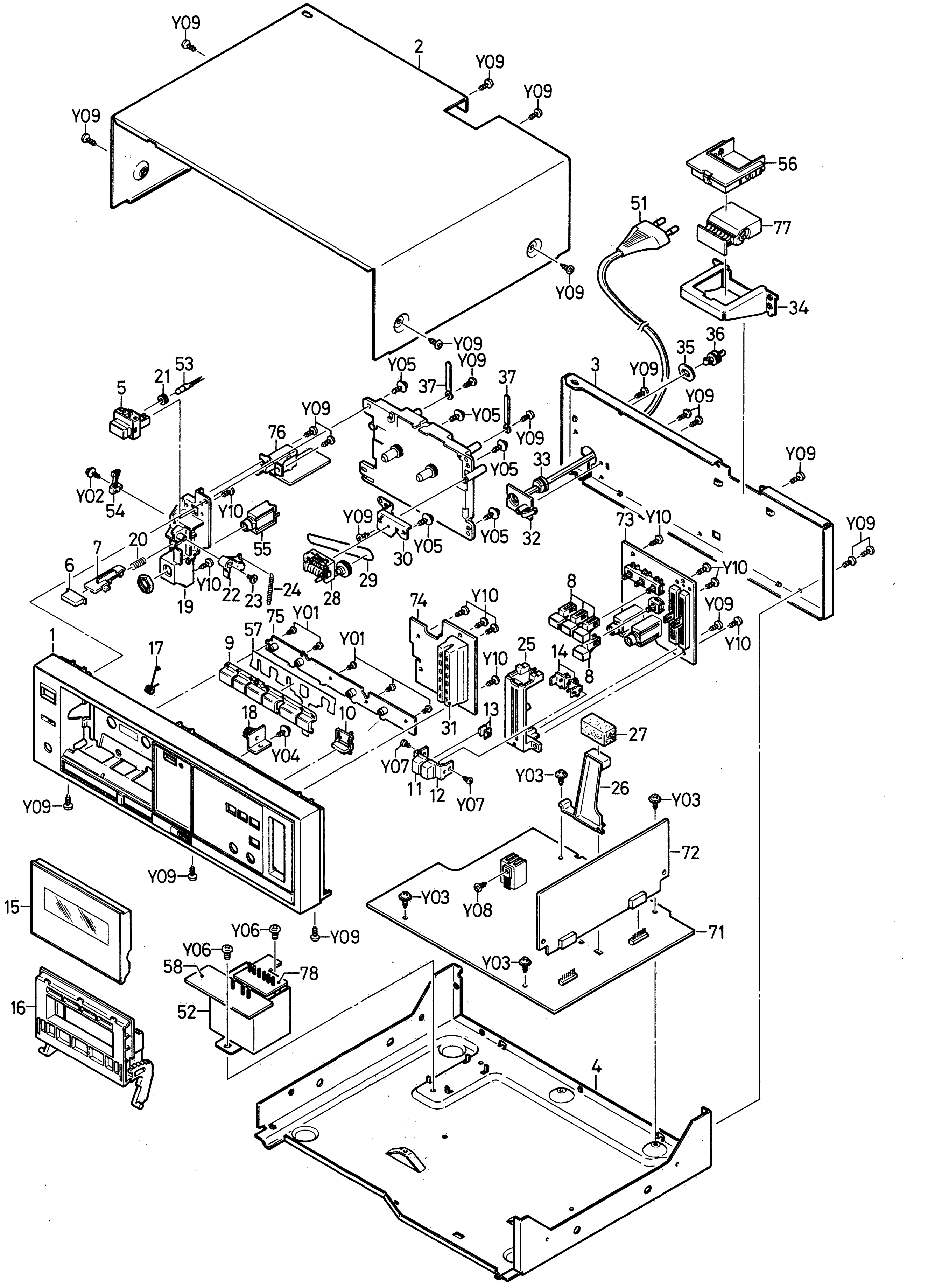
1. Respectively record and play back the signals of 1 kHz and 10 kHz frequencies of audio frequency oscillator.
2. Taking the playback output value of 1 kHz as 0 dB, confirm that the value of 10 kHz is within ± 1 dB.
3. If this playback output value is not within ± 1 dB, adjust SVR601. (Both the right and left channels can be adjusted simultaneously with SVR601).
4. Repeat the foregoing steps 1 ~ 3.

(4.3) Adjustment with CHROME (CrO2) tape

TAPE switch: CrO2
Input switch: –38 dB (1 kHz, 10 kHz)
Tape used: CrO2 (such as AC-512.)

1. Respectively record and play back the signals of 1 kHz and 10 kHz frequencies of audio frequency oscillator.
2. Taking the playback output value of 1 kHz as 0 dB, confirm that the value of 10 kHz is within ± 1 dB.
3. If this playback output value is not within ± 1 dB, adjust SVR602. (Both the right and left channels can be adjusted simultaneously with SVR602).
4. Repeat the foregoing steps 1 ~ 3.

EXPLODED VIEW (CABINET & CHASSIS)



PARTS LIST

Safety notice:
All parts bearing the ⚠ symbol were manufactured to conform to special safety standards. When replacing, do not use parts numbers other than those specified.

Ref. No.	Part No.	Description	Q'ty
PACKING			
	141-6-133T-57000	Individual Carton	1
	141-6-145T-00700	Foam Plastic Case, Left	1
	141-6-145T-00800	Foam Plastic Case, Right	1
	141-6-235T-45501	Inner Polye Lamian Cover, 450 x 500mm, Set	1
	141-6-409T-06800	Instruction Manual	1
CABINET & CHASSIS			
1	141-0-122T-54600	Front Panel Ass'y	1
2	141-2-111T-62800)or 141-2-111S-62800	Cabinet	1
3	141-2-126T-49400	Back Lid	1
4	141-0-125T-35300	Bottom Lid Ass'y	1
5	141-0-160T-35200	Push Button Ass'y, POWER	1
6	141-2-160T-42600	Push Button, EJECT	1
7	141-2-253T-39500	Joint, Eject	1
8	141-2-160T-42700	Push Button, Tape Selector/Input	4
9	141-0-160T-42400	Push Button Ass'y, Mechanism Operation (REC/REW/PLAY/ F.FWD/STOP/PAUSE)	1
10	141-2-160T-42500	Push Button, REC MUTE	1
11	141-2-164T-36600	Slide Knob, INPUT LEVEL (L)	1
12	141-2-164T-36700	Slide Knob, INPUT LEVEL (R)	1
13	141-2-352T-67000	Spacer, Slide Knob	2
14	141-2-253T-38600	Joint, Slide Knob	2
15	141-0-124T-44300	Top Lid Ass'y, Cassette Compartment Lid	1
16	141-2-224T-15600	Bracket Lid, Cassette Compartment Lid	1
17	141-2-856T-38900	Spring Coil, Cassette Compartment Lid	1
18	141-0-581T-32003	Gear Ass'y, Cassette Compartment Lid	1
19	141-2-210T-59900	Bracket, Eject	1
20	141-2-856T-14000	Spring Coil, Eject	1
21	141-2-445T-08701	Rubber Cushion, Lamp	1
22	141-2-740T-16900	Lever, Top Lid	1
23	141-2-421T-41000	Special Screw, Lever mtg.	1
24	141-2-855T-80300	Spring Coil, Lever	1
25	141-2-210T-57400	Bracket, Input Level Volume	1
26	141-2-464T-44300	Fixer, Dolby NR P.C.Board mtg.	1
27	141-2-447T-92801	Cushion, 15 x 30 x 15mm	1
28	141-2-811T-13800	Counter, Tape	1
29	141-2-564T-34700	Square Belt, Tape Counter	1
30	141-2-812T-14000	Bracket Counter, Tape Counter	1
31	141-2-210T-60000	Bracket, LED, Level Indicator	1
32	141-2-210T-58100	Bracket, Power Cord mtg.	1
33	141-2-464T-12500	Fixer, Power Cord mtg.	1
34	141-2-290T-01200	Bracket, ONE TOUCH JOINT	1
35	141-2-448T-08100	Cushion, Fixer mtg.	1
36	141-2-464T-44400	Fixer, Cabinet mtg.	1
37	141-2-472T-01001	Lug	2
	141-6-479T-71500	Label, Caution, One Touch Joint	1
FIXING PARTS			
Y01		Pan Hd. Tapping Screw 2 x 6mm	5
Y02		Pan Hd. Tapping Screw w/Washer 2 x 8mm	1
Y03		Pan Hd. Tapping Screw w/Washer, 3 x 8mm	4
Y04		Pan Hd. Tapping Screw w/Washer, 3 x 10mm	1

Ref. No.	Part No.	Description	Q'ty
FIXING PARTS			
Y05		Pan Hd. Tapping Screw w/Washer, 3 x 12mm	5
Y06		Binding Hd., Self Tite Screw 4 x 8mm	2
Y07		Binding Hd. Tapping Screw 2.6 x 6mm	2
Y08		Binding Hd. Tapping Screw 3 x 6mm	1
Y09		Binding Hd. Tapping Screw 3 x 8mm	21
Y10		Binding Hd. Tapping Screw 3 x 10mm	10
ELECTRICAL PARTS			
51	4-243T-83973	⚠Power Cord	1
52	4-300T-87500	⚠Power Transformer (T901)	1
53	4-612T-16300	Lamp, 8V 100mA, Power Switch (PL)	1
54	4-238T-82700	Switch, Eject (S603)	1
55	4-240T-09171	Socket, PHONES	1
56	141-2-210T-64200	Bracket, One Touch Joint	1
57	141-2-322T-84900	Shield Plate, Mechanism Push Button mtg.	1
58	4-280T-59900	P.C.Board, Power Transformer (Primaly)	1
	4-240T-81000	Socket, 3p, Phones	1
	4-240T-90400	Socket, 2p, Eject	1
AMP P. C. B. ASS'Y			
71	141-4-280T-59200	P.C.B. Ass'y, Main	1
S3	4-231T-65200	Switch, Beat Cancel	1
	4-237T-00100	Terminal Board	2
IC601		IC LM6413E385	1
IC602		IC LC4081B	1
IC603		IC LC4001B	1
IC701		IC LA3160T	1
IC702		IC BA3706	1
Q601,623, 624,625, 617,618		Transistor 2SC536 AUD or 2SC1740	6
Q602,603, 604,606, 613,614		Transistor 2SA933	6
Q605,607, 608,609, 903,905		Transistor 2SC536 AUD or 2SC1740	6
Q610,611, 612,712, 812		Transistor 2SC536 AUD or 2SC1740	5
Q615,904		Transistor 2SD734	2
Q616,902		Transistor 2SD1292	2
Q619		Transistor 2SA933	1
Q620,621, 629,630, 706,806		Transistor 2SC536 AUD or 2SC1740	6
Q622		Transistor 2SA1038 or 2SA1016	1
Q627,628		Transistor 2SC536 AUD	2
Q631,632		Transistor 2SC536 AUD or 2SC1740	2
Q701,702, 704,801, 802,804		Transistor 2SC536 AUD or 2SC1740	6
Q703,705, 803,805		Transistor 2SD1468	4
Q707,708, 807,808		Transistor 2SD1011	4
Q901		Transistor 2SD1379	1

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
AMP. P. C. B. ASS'Y			
D601		Zener Diode MTZ10A	1
D602,603 611,624, 625,911		Diode 1SS133	6
D604,612, 629,631, 632,909		Diode 1SS133	6
D605,606, 607,608, 609,610		Diode 1SS133	6
D630,628, 910		Zener Diode MTZ5.6A	3
D901,902, 903,904, 905		⚠Diode 1SR35-200A	5
D906		⚠Diode 1SR35 M	1
D907		Zener Diode MTZ15A	1
D908,626, 627		⚠Diode 1SR35-200A	3
	141-2-368T-27100	Heat Sink	1
	4-221T-10882	Resistor, 10K ohm x 8	1
CNP2	4-236T-24472	Plug, 2p, Erasing Head	1
CNP3	4-236T-19774	Plug, 6p, Joint P.C.Board	1
CNS4	4-240T-83577	Socket, 7p, Level Indicator	1
CNP5	4-236T-19771	Plug, 3p, Phones	1
CNS6	4-240T-47680	Socket, 10p, Function Switch	1
CNP7	4-236T-24475	Plug, 5p, R/P Head	1
CNP8	4-236T-19779	Plug, 12p, Mechanism Operation	1
CNP9	4-236T-19700	Plug, 2p, Eject Switch	1
CNP10	4-236T-19778	Plug, 10p, Mechanism	1
CNP500,550	4-236T-10274	Plug, 7p, Dolby NR	2
CNS11	4-240T-37900	Socket, 3p, Auto Stop	1
L601	4-258T-44840	Oscillator Coil	1
L701,801	4-255T-02371	MX Coil, 85kHz	2
X601	4-266T-00500 or 4-266T-00600	Ceramic Resonator	1
SVR601,602	4-222T-97574	Semi-fixed Resistor 5K ohm	2
SVR701,801	4-222T-97575	Semi-fixed Resistor 10K ohm	2
SVR702,802, 703,803	4-222T-97576	Semi-fixed Resistor 20K ohm	4
SVR704,804	4-222T-97578	Semi-fixed Resistor 100K ohm	2
	RESISTORS All Resistors are Carbon type ±5%, 1/6W unless otherwise noted.		
R601		2.7K ohm	1
R602,644		1K ohm	2
R603,605, 656,657, 717,817		4.7K ohm	6
R607,672, 675,686		33K ohm	4
R608,609		12K ohm	2
R610		3.3 ohm	1
R611,615, 628,643, 719,819		22K ohm	6
R612,658,		4.7K ohm	2
R613		100K ohm	1
R614,630, 637,639		10K ohm	4
R620,636, 669,696		1.5K ohm	4
R621,724, 824		8.2K ohm	3
R622		6.8K ohm	1
R623		18K ohm	1
R624,682, 722,822		1.2K ohm	4
R626,638, 641		100K ohm	3
R629		47K ohm	1
R631,635, 653,654		10K ohm	4
R632,640, 645,662, 663		47K ohm	5

Ref. No.	Part No.	Description	Q'ty
AMP. P. C. B. ASS'Y			
	RESISTORS		
R633,694, 713,813		56K ohm	4
R634		150K ohm	1
R642,649, 718,818		2.2K ohm	4
R646,706, 725,806, 825		3.3K ohm	5
R647,674, 679,708, 808		100K ohm	5
R650		1,8K ohm	1
R651,670		1M ohm	2
R652,677, 678,680, 685,691		10K ohm	6
R659,660		820 ohm	2
R661,917		220 ohm	2
R664,665, 688,687, 689,671		10K ohm	6
R667,668, 676,684, 905,906		47K ohm	6
R673		10 ohm	1
R681		68K ohm	1
R683,721, 821,912, 913,914		10K ohm	6
R690		82K ohm	1
R692,693		220K ohm	2
R695,697, 698		27K ohm	3
R701,801, 704,804, 705,805		4.7K ohm	6
R702,802		150K ohm	2
R703,803		68 ohm	2
R707,807, 716,816		10K ohm	4
R709,809, 711,811, 712,812		4.7K ohm	6
R710,810, 627		22K ohm	3
R714,814		390 ohm	2
R715,815		27 ohm	2
R720,820		150K ohm	2
R723,823		5.6K ohm	2
R901,909, 918,919, 920		560 ohm	5
R902		⚠FP-Carbon 1 ohm ±5% ¼W	1
R903,910		47 ohm	2
R907		3.9K ohm	1
	141-2-490T-12100	Tube, 6ϕ x 15mm, R904,916 mtg.	2
R908		⚠FP-Carbon 22 ohm, ±5% ¼W	1
R911		100 ohm	1
R915		150 ohm	1
R916,904	4-221T-07600	⚠Fuse Resistor, 10 ohm ¼W	2
R922,923, 924		10K ohm	3
	CAPACITORS		
C601		Electrolytic 0.22µF ±20% 50V	1
C602		BC Con 0.0068µF ±5% 25V	1
C603,605		BC Con 0.0033µF ±5% 25V	2
C604		BC Con 0.033µF ±5% 25V	1
C606		P P Con 0.01µF ±5% 100V	1
C607		Ceramic 100pF ±10% 50V	1
C608		Ceramic 470pF ±10% 50V	1
C609,610		Ceramic 220pF ±10% 50V	2
C611,628, 629,631, 735,835		Electrolytic 10µF ±20% 16V	6
C612,613, 624		Electrolytic 1µF ±20% 50V	3
C614,914		Electrolytic 22µF ±20% 16V	2

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
AMP. P. C. B. ASS'Y			
	CAPACITORS		
C615,704, 709,804, 809		Electrolytic 2.2µF ±20% 25V	5
C616,617, 618,620		Electrolytic 0.47µF ±20% 50V	4
C619		Electrolytic 33µF ±20% 16V	1
C621		P P Con 1000pF ±5% 100V	1
C623,911		Electrolytic 3.3µF ±20% 25V	2
C627,632		Ceramic 0.01µF +80–20% 50V	2
C701,801, 716,816, 717,817		Ceramic 470pF ±10% 50V	6
C702,802, 711,811, 715,815		Electrolytic 10µF ±20% 16V	6
C703,803		Ceramic 0.001µF ±10% 50V	2
C705,805		BC Con 0.027µF ±5% 25V	2
C706,806		Electrolytic 47µF ±20% 10V	2
C708,808		BC Con 0.018µF ±5% 25V	2
C710,810, 712,812, 714,814		Electrolytic 1µF ±20% 50V	6
C713,813, 630		Electrolytic 4.7µF ±20% 25V	3
C902,903, 904,905, 906		Ceramic 0.01µF +80–20% 50V	5
C907		Electrolytic 1000µF ±20% 25V	1
C908		Electrolytic 220µF ±20% 16V	1
C910		Electrolytic 2200µF ±20% 25V	1
C912		Electrolytic 220µF ±20% 6.3V	1
C916,909		Electrolytic 470µF ±20% 16V	2
C917,918		Electrolytic 1000µF ±20% 16V	2
C924		Electrolytic 100µF ±20% 16V	1
C926,923, 920,919		Electrolytic 47µF ±20% 16V	4
DOLBY NR P. C. B. ASS'Y			
72	141-4-280T-01401	P.C.B. Ass'y, Dolby NR	1
CN500, 550	4-240T-18507	Socket	2
IC501,551		IC HA12058	2
L501,551	4-255T-03171	MX Coil	2
L502,552	4-255T-04040	MX Coil	2
Q501,551		Transistor 2SC536 AUD or 2SC1740	2
	RESISTORS All Resistors are Carbon type ±5% 1/6W, unless otherwise noted.		
R500		⚠FP-Carbon 22 ohm ¼W	1
R501,504, 506,551, 554,556		3.3K ohm	6
R502,521, 552,571		5.6K ohm	4
R503,507, 553,557		8.2K ohm	4
R505,520, 555,570		1K ohm	4
R508,558		24K ohm	2
R509,518, 559,568		6.2K ohm	4
R510,511, 560,561		1M ohm	4
R512,519, 562,569		82K ohm	4
R513,563		4.7K ohm	2
R514,564		10K ohm	2
R515,565		68K ohm	2
R516,566		470 ohm	2
R517,567		47K ohm	2
R522,572		100K ohm	2

Ref. No.	Part No.	Descritpin	Q'ty
DOLBY NR P. C. B. ASS'Y			
	CAPACITORS		
C500,550		Electrolytic 220µF ±20% 10V	2
C501,551		BC Con 0.0027µF ±5% 25V	2
C503,553		BC Con 0.033µF ±5% 25V	2
C504,554		BC Con 0.01µF ±5% 25V	2
C505,555		BC Con 0.018µF ±5% 25V	2
C506,556		BC Con 0.0056µF ±5% 25V	2
C507,557		BC Con 0.0047µF ±5% 25V	2
C508,558		BC Con 0.0082µF ±5% 25V	2
C509,559		BC Con 0.082µF ±5% 25V	2
C511,561		Ceramic 39pF ±5% 50V	2
C521,526, 571,576		Electrolytic 4.7µF ±20% 25V	4
C522,572		Electrolytic 0.33µF ±20% 50V	2
C523,527, 573,577		Electrolytic 0.15µF ±20% 50V	4
C524,528, 574,578		Electrolytic 0.47µF ±20% 50V	4
C525,575		Electrolytic 0.68µF ±20% 50V	2
C529,530, 579,580		Electrolytic 4.7µF ±20% 25V	4
C531,581		Electrolytic 1µF ±20% 50V	2
FUNCTION SWITCH & INPUT LEVEL CONTROL P. C. B. ASS'Y			
73	141-4-280T-59300	P.C.B. Ass'y, Function Switch & Input Level Control	1
S1	4-238T-86100	Switch, Input	1
S2	4-238T-86000	Switch, Tape Selector	1
VR701,801	4-220T-11090	Variable Resistor, Input Level Volume	2
	4-240T-80873	Socket, Mic	2
CNS6	4-240T-80900	Socket, 9p	1
CNS12	4-240T-81100	Socket, 3p	1
L702,802	4-252T-12922	Choke Coil, 6.8mH	2
Q710,810		Transistor 2SC1571	2
Q711,811		Transistor 2SC536 AUD or 2SC1740	2
	RESISTORS All Resistors are Carbon type ±5% 1/6W, unless otherwise noted.		
R730,830		6.8K ohm	2
R731,831		1M ohm	2
R732,832		15K ohm	2
R733,833		22 ohm	2
R734,834, 735,835, 736,836		100K ohm	6
R737,837		4.7K ohm	2
R738,838		1K ohm	2
R739,839		3.3K ohm	2
R740,840		5.6K ohm	2
R741,841		180 ohm	2
R742,842		33K ohm	2
R743,843		2.7K ohm	2
R744,844		39K ohm	2
R930		2.7K ohm	1
R931		1K ohm	1
	CAPACITORS		
C730,830		Ceramic 470pF ±10% 50V	2
C731,831, 732,832, 734,834		Electrolytic 1µF ±20% 50V	6
C736,836		BC Con 0.0082µF ±5% 25V	2
C737,837		BC Con 0.018µF ±5% 25V	2
C738,838		Ceramic 0.001µF ±10% 50V	2
C930		Electrolytic 100µF ±20% 10V	1
C931		Electrolytic 100µF ±20% 16V	1

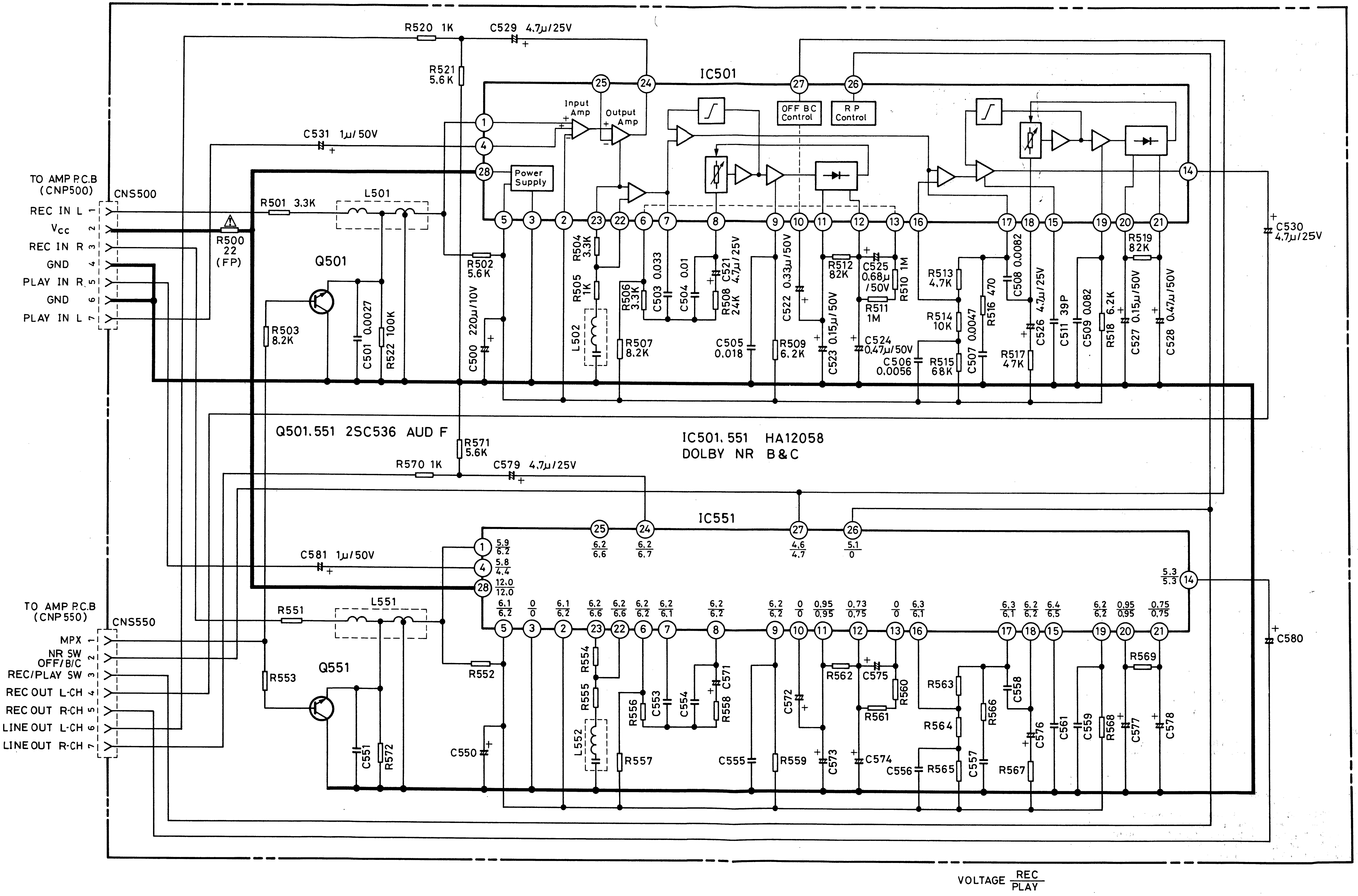
PARTS LIST

Ref. No.	Part No.	Description	Q'ty
LEVEL INDICATOR & DOLBY NR SWITCH P. C. B. ASS'Y			
74	141-4-280T-59400	P.C.B. Ass'y, Level Indicator & Dolby NR Switch	1
S401,402, 403	4-238T-69800	Switch, Dolby NR	3
CNS4	4-240T-81200	Socket, 7p, Amp P. C. B.	1
IC401		IC TC9145P	1
IC750,850		IC BA6124	1
D401,402		LED SLP280F-50 B Green	2
D403		LED SLP180F-50 B Red	1
D750,850, 751,851		LED SLZ151B B O Red	4
D752,852, 755,855		LED SLZ251B B O Green	4
D753,853, 754,854		LED SLZ251B B O Green	4
	RESISTORS All Resistors are Carbon type ±5% 1/6W, unless otherwise noted.		
R401,402, 403		1K ohm	3
R404,405, 406		33K ohm	3
R407		2.7K ohm	1
R408		330 ohm	1
R409,750, 850		10K ohm	3
R410		15K ohm	1
R751,752, 851,852		1.5K ohm	4
R950	4-221T-07600	⚠Fuse Resistor 10ohm ¼W	1
	141-2-490T-12100	Tube, 1ϕ x 15mm, R950 mtg.	2
R951		1K ohm	1
R952		680 ohm	1
R953,954		820 ohm	2
R955		1K ohm	1
	CAPACITORS		
C401,402, 403		Ceramic 0.01 µF +80–20% 50V	3
C750,850, 952		Electrolytic 10µF 16V	3
C950		Electrolytic 47µF 16V	1
C951		Electrolytic 100µF ±20% 16V	1
MECHANISM SWITCH & LED P. C. B. ASS'Y			
75	141-4-280T-59500	P.C.B. Ass'y, Mechanism Switch & LED	1
S604,605 606,607	4-238T-69800	Switch, Mechanism Operation	4
S608,609, 610	4-238T-69800	Switch, Mechanism Operation	3
CNS8	4-240T-81300	Socket, 12p	1
	141-2-490T-20600	Tube	4
D613,614, 615,616		Diode 1SS133	4
D617,618, 619		Diode 1SS133	3
D620,621		LED SLP281B Green	2
D622,623		LED SLP181B B Red, REC/REC MUTE	2
	RESISTORS		
R616,617,		Carbon 820 ohm ±5% 1/6W	2
R618,619		Carbon 2.2K ohm ±5% 1/6W	2
POWER SWITCH P. C. B. ASS'Y			
76	141-4-280T-59600	P.C.B. Ass'y, Power Switch	1
S901	4-238T-91200	⚠Switch, Power	1
C901	4-223T-12100	⚠Capacitor, 0.01 µF 400V	1
	4-237T-00100	⚠Terminal Board	2
	141-2-382T-18900	⚠Terminal	2

Ref. No.	Part No.	Description	Q'ty
JOINT P. C. B. ASS'Y			
77	141-4-280T-59700	P.C.B. Ass'y, Joint	1
	4-240T-80700	Socket, One Touch Joint	1
CNS3	4-240T-90500	Socket, 6p	1
CNP12	4-236T-24473	Plug, 3p	1
POWER TRANSFORMER (SECONDARY) P. C. B. ASS'Y			
78	141-4-280T-59800	P.C.B. Ass'y, Power Transformer (Secondary)	1
CNS1	4-240T-83576	Socket, 6p	1

MEMO

SCHEMATIC DIAGRAM (DOLBY)


TO AMP P.C.B (CNP500)
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REC IN L
Vcc
REC IN R
GND
PLAY IN R
GND
PLAY IN L
TO AMP P.C.B (CNP550)
CNS550
MPX
NR SW OFF/B/C
REC/PLAY SW
REC OUT L-CH
REC OUT R-CH
LINE OUT L-CH
LINE OUT R-CH
R520 1K
C529 4.7µ/25V
R521 5.6K
C531 1µ/50V
R501 3.3K
L501
R500 22 (FP)
Q501
R503 8.2K
C501 0.0027
R522 100K
R502 5.6K
C500 220µ/10V
IC501
Input Amp
Output Amp
Power Supply
OFF BC Control
R P Control
R504 3.3K
R505 1K
L502
R506 3.3K
R507 8.2K
C503 0.033
C504 0.01
C521 4.7µ/25V
R508 24K
C505 0.018
C522 0.33µ/50V
R509 6.2K
C523 0.15µ/50V
R512 82K
C525 0.68µ/50V
R510 1M
R511 1M
C524 0.47µ/50V
C506 0.0056
R513 4.7K
R514 10K
R515 68K
C507 0.0047
R516 470
C508 0.0082
C526 4.7µ/25V
R517 47K
C511 39P
C509 0.082
R518 6.2K
R519 82K
C527 0.15µ/50V
C528 0.47µ/50V
C530 4.7µ/25V
Q501, 551 2SC536 AUD F
IC501, 551 HA12058 DOLBY NR B&C
R571 5.6K
R570 1K
C579 4.7µ/25V
IC551
C581 1µ/50V
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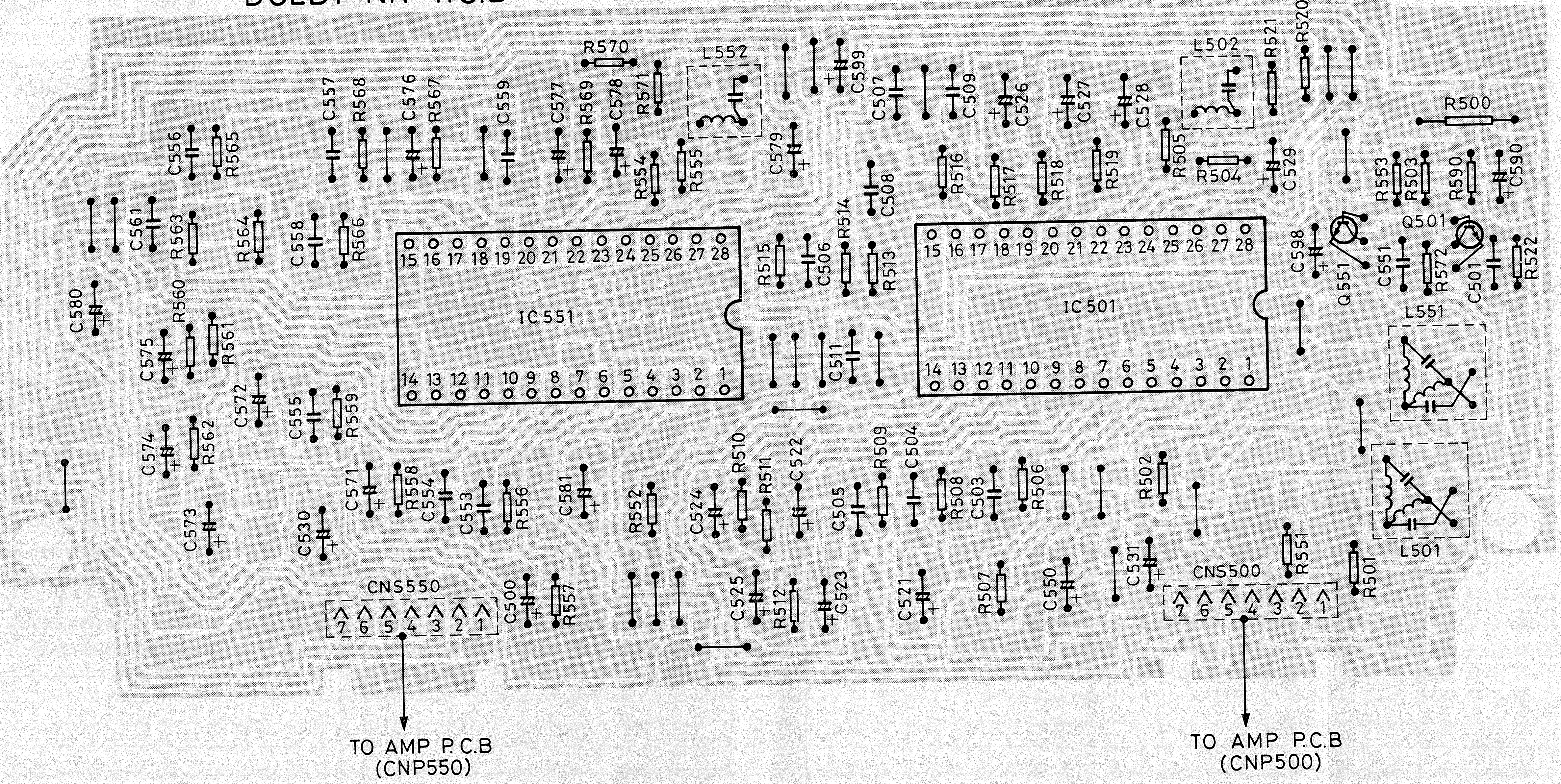
C580
VOLTAGE REC/PLAY

DOLBY NR P.C.B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C523
C521
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C550
C531
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R501
CNS550
C500
R557
CNS500
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15 16 17 18 19 20 21 22 23 24 25 26 27 28
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TO AMP P.C.B
(CNP550)
TO AMP P.C.B
(CNP500)

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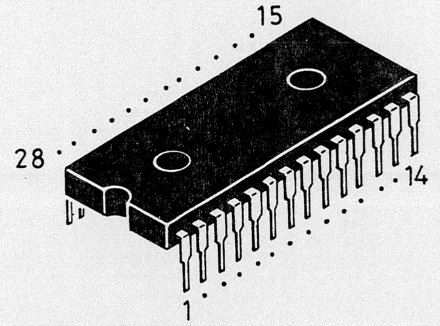

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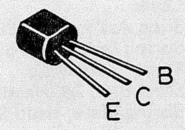
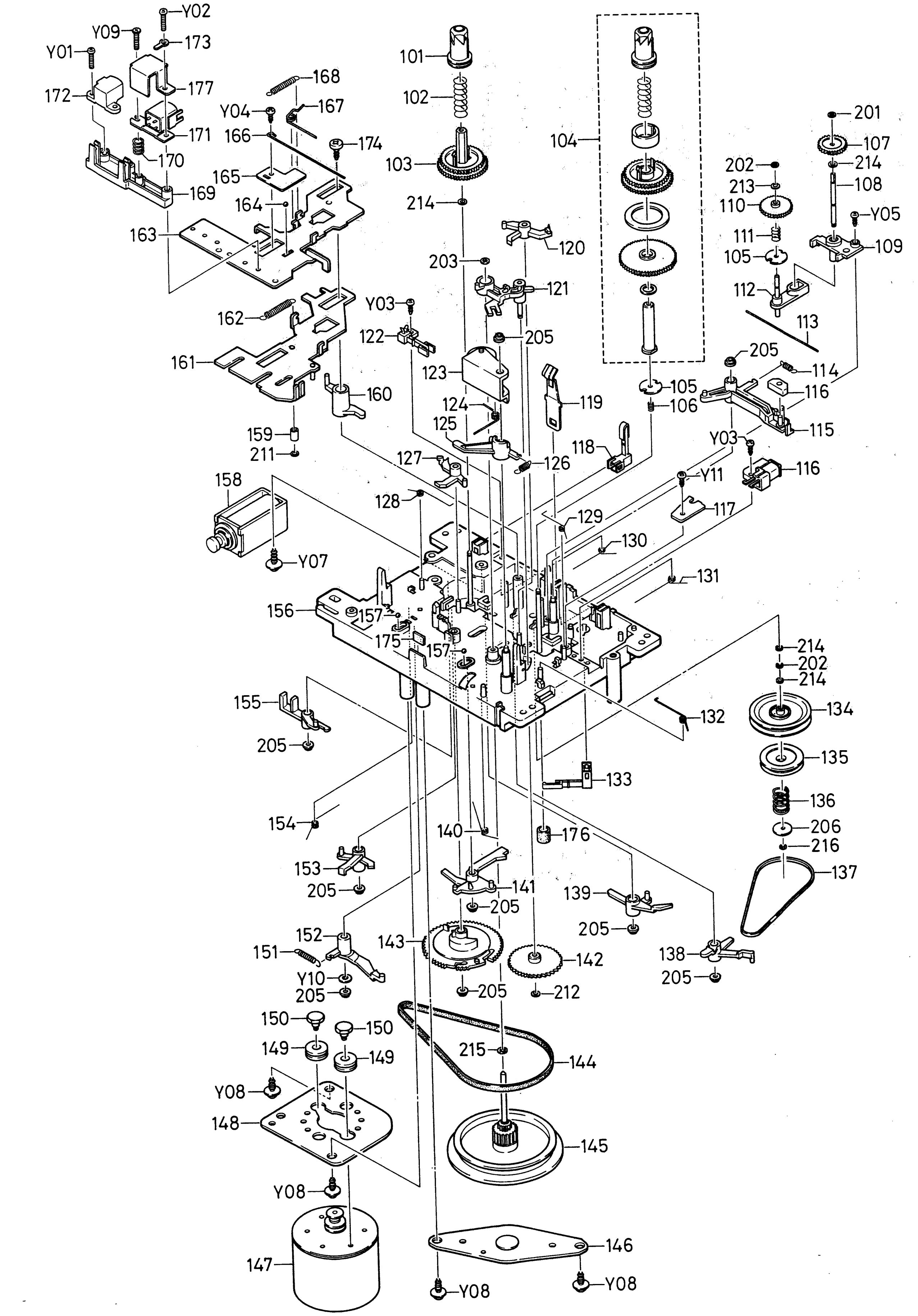


XPLODED VIEW (MECHANISM)



PARTS LIST

Ref. No.	Part No.	Description	Q'ty
MECHANISM (TM D50)			
101	141-2-532T-06200	Reel Guide, Left	1
102	141-2-856T-37100	Spring Coil, Back Tension	1
103	141-2-581T-36000	Gear, Reel (L)	1
104	141-0-532T-06300	Reel Guide Ass'y, Take-up	1
105	141-2-457T-46600	Special Washer	2
106	141-2-856T-37200	Spring Coil, Back Tension	1
107	141-2-581T-35500	Gear	1
108	141-2-754T-60800	Shaft	1
109	141-0-577T-07700	Bracket Bearing Ass'y	1
110	141-2-581T-35600	Gear	1
111	141-2-856T-37400	Spring Coil	1
112	141-0-740T-12600	Lever Ass'y, REW, F. FWD	1
113	141-2-852T-93700	Spring Wire	1
114	141-2-856T-36700	Spring Coil	1
115	141-0-740T-12300	Lever Ass'y, Head Slide Lock	1
116	4-264T-12000	Magnetic Coil, Solenoid, AMSS	1
117	141-4-280T-57100	P.C.Board Ass'y, Auto Stop	1
	SMDM106A+++++	Magnet Senor DM106A	1
118	4-238T-80800	Switch, S601, Accidental Record	1
119	141-2-853T-86900	Spring Plate, Cassette	1
120	141-2-740T-13700	Lever, Brake (R)	1
121	141-0-740T-12400	Lever Ass'y	1
122	4-238T-72900	Switch, S602, Head Slide	1
123	141-0-545T-09400	Lever Pinch Roller Ass'y	1
124	141-2-852T-93600	Spring Wire, Pinch Roller	1
125	141-2-740T-12500	Lever	1
126	141-2-856T-36800	Spring Coil	1
127	141-2-740T-13100	Lever, Brake (L)	1
128	141-2-852T-93300	Spring Wire	1
129	141-2-852T-93200	Spring Wire	1
130	141-2-852T-94000	Spring Wire	1
131	141-2-852T-94100	Spring Wire	1
132	141-2-852T-93400	Spring Wire	1
133	4-238T-79000	Switch, S611, Cam Switch	1
134	141-2-661T-34500	Pulley	1
135	141-0-661T-34601	Pulley Ass'y	1
136	141-2-856T-37300	Spring Coil	1
137	141-2-564T-34100	Square Belt, REW/F. FWD	1
138	141-2-740T-12900	Lever, Play/Stop	1
139	141-2-740T-13300	Lever	1
140	141-2-852T-93800	Spring Wire	1
141	141-2-740T-13200	Lever, Head Slide Lock	1
142	141-2-581T-35200	Gear	1
143	141-2-581T-35700	Gear	1
144	141-2-561T-07000	Flat Belt, Main	1
145	141-0-521T-15800	Flywheel Ass'y	1
146	141-0-524T-11100	Bracket Flywheel Ass'y	1
147	4-527T-25811	Motor Ass'y	1
148	141-2-378T-15900	Bracket Motor	1
149	141-2-445T-29100	Rubber Cushion	2
150	141-2-421T-55500	Special Screw	2
151	141-2-856T-36900	Spring Coil	1
152	141-2-740T-15500	Lever	1
153	141-2-740T-12800	Lever	1
154	141-2-852T-93900	Spring Wire	1
155	141-2-740T-13000	Lever, Trigger	1
156	141-0-311T-47500	Chassis Ass'y	1
157	141-2-345T-00700	Steel Ball, 2.5ϕ, Head Slide	2
158	4-264T-13200	Magnetic Coil, Solenoid, Play/Stop	1
159	141-2-461T-41600	Pipe	1
160	141-2-740T-12700	Lever	1
161	141-0-732T-23500	Slide Ass'y, Head Slide	1
162	141-2-856T-36600	Spring Coil, Head Slide	1
163	141-2-732T-23400	Slide, Head Slide	1
164	141-2-345T-00400	Steel Ball, 2ϕ, Head Slide	1
165	141-2-853T-87000	Spring Plate, Head Slide	1
166	141-2-852T-96500	Spring Wire	1
167	141-2-852T-93500	Spring Wire	1
168	141-2-856T-36500	Spring Coil, Head Slide	1
169	141-2-375T-07000	Bracket Head, Head Base	1
170	141-2-856T-15200	Spring Coil, Head Azimuth	1
171	4-242T-25371	Magnetic Head, Record/Play	1
172	4-242T-27500	Magnetic Head, Erasing	1
173	123-2-472R-00200	Lug, Ground	1
174	141-2-421T-41000	Special Screw, 2.3 x 6mm	1
175	141-2-445T-30300	Rubber Cushion	1
176	141-2-445T-20801	Rubber Cushion, Chassis Mtg.	1
177	141-2-322T-78101	Shield Plate, R/P Head	1

Ref. No.	Part No.	Description	Q'ty
MECHANISM (TM D50)			
201	141-2-581T-24300	Washer, 1.3 x 3.2 x 0.25mm	1
202	141-2-457T-23800	Special Washer, "E" Ring, 1.5mm	1
203	141-2-457T-47500	Special Washer	1
204	141-2-457T-20000	Special Washer	1
205	141-2-457T-46300	Special Washer	9
206	141-2-457T-06200	Special Washer	1
211	141-2-453T-33901	Washer, 1.2 x 2.5 x 0.25mm	1
212	141-2-453T-30001	Washer, 1.7 x 3.2 x 0.25mm	1
213	141-2-453T-30101	Washer, 2.1 x 4.0 x 0.25mm	3
214	141-2-453T-30102	Washer, 2 x 4 x 0.5mm	2
215	141-2-453T-32301	Washer, 2.6 x 3.6 x 0.25mm	1
216	141-2-457T-23700	Special Washer, "E" Ring 1.2mm	1
	4-240T-79300	Socket, 10p, Mechanism	1
	4-240T-88300	Socket, 2p, Erasing Head	1
	4-240T-88200	Socket, 5p, R/P Head	1
	141-2-445T-32100	Rubber Cushion, Bracket Motor mtg.	1
	141-2-472T-01001	Lug	2
FIXING PARTS			
Y01		Pan. Hd. Screw w/Washer 2 x 10mm	1
Y02		Pan. Screw with Spring Washer 2 x 10mm	1
Y03		Pan. Hd. Tapping Screw 2 x 8mm	2
Y04		Pan. Hd. Tapping Screw 2.3 x 6mm	1
Y05		Pan. Hd. Tapping Screw 2.3 x 8mm	1
Y06		Not used	
Y07		Pan. Hd. Tapping Screw w/Washer 3 x 8mm	1
Y08		Binding Hd. Tapping Screw 3 x 8mm	5
Y09		Flat Hd. Screw, 2 x 11mm	1
Y10		Washer, 2.3 x 6 x 0.5mm	1
Y11		Pan Hd. Tapping Screw 2.6 x 6mm	1

SANYO ELECTRIC TRADING CO., LTD.
33, Hiyoshi-cho 2-chome, Moriguchi-shi,
Osaka-fu, 570 Japan.

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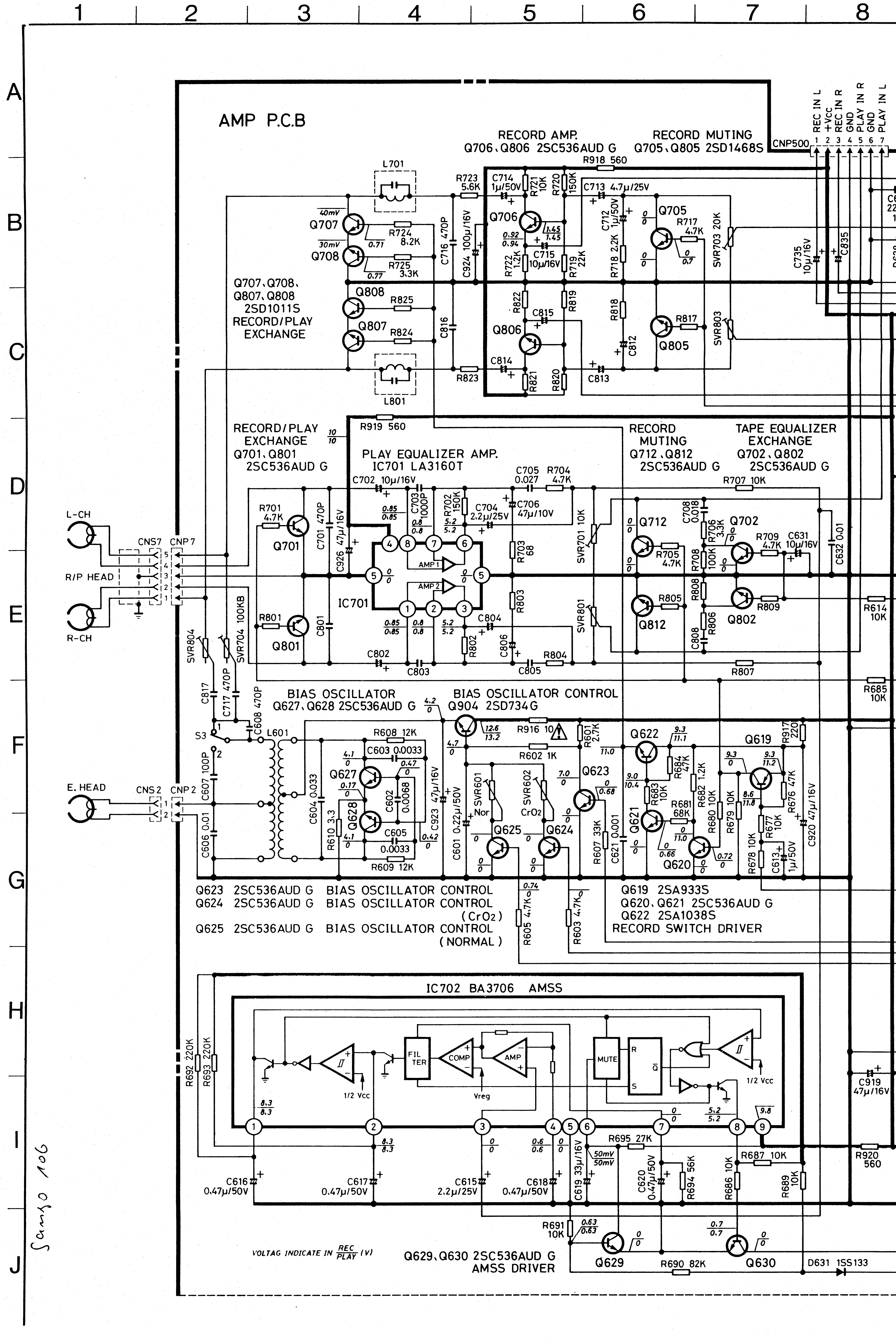
D50 (EUROPE) SCHEMATIC DIAGRAM (AMP 1)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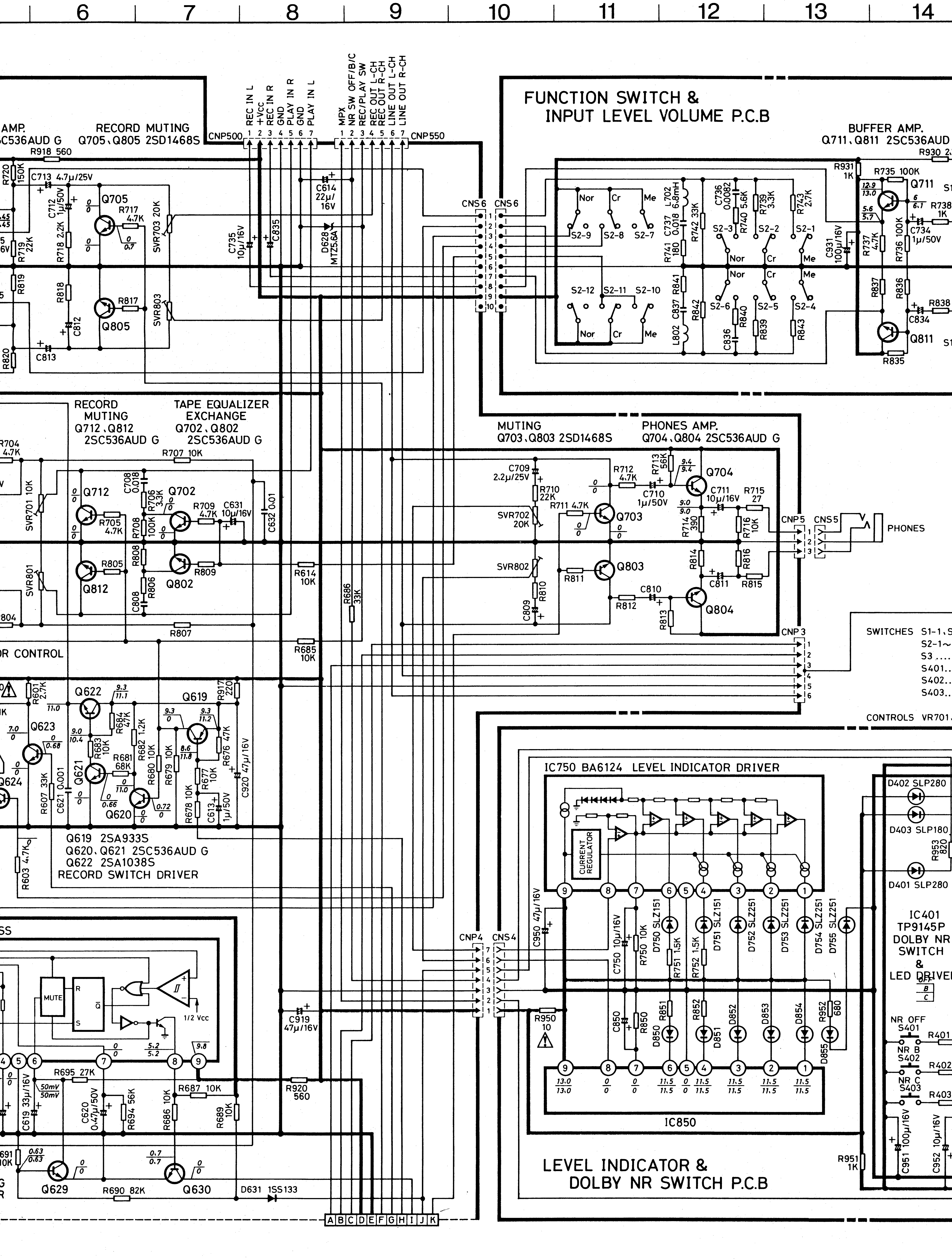
A
B
C
D
E
F
G
H
I
J
AMP P.C.B
RECORD AMP.
Q706、Q806 2SC536AUD G
RECORD MUTING
Q705、Q805 2SD1468S
CNP500
REC IN L
+Vcc
REC IN R
GND
PLAY IN R
GND
PLAY IN L
R918 560
L701
R723 5.6K
C714 1μ/50V
R721 10K
R720 150K
C713 4.7μ/25V
C712 1μ/50V
Q705
R717 4.7K
SVR703 20K
C735 10μ/16V
C835
Q707
Q708
R724 8.2K
R725 3.3K
C716 470P
C924 100μ/16V
Q706
C715 10μ/16V
R722 1.2K
R719 22K
R718 2.2K
Q707、Q708、
Q807、Q808
2SD1011S
RECORD/PLAY
EXCHANGE
Q808
Q807
R825
R824
C816
Q806
R822
C815
R819
R818
R817
SVR803
C812
Q805
C814
R821
R820
C813
R823
L801
RECORD/PLAY
EXCHANGE
Q701、Q801
2SC536AUD G
R919 560
PLAY EQUALIZER AMP.
IC701 LA3160T
RECORD
MUTING
Q712、Q812
2SC536AUD G
TAPE EQUALIZER
EXCHANGE
Q702、Q802
2SC536AUD G
C702 10μ/16V
C703 1000P
R702 150K
C704 2.2μ/25V
C705 0.027
R704 4.7K
C706 47μ/10V
R707 10K
R701 4.7K
Q701
C701 470P
C926 47μ/16V
AMP 1
AMP 2
IC701
R703 68
SVR701 10K
Q712
C708 0.018
R706 3.3K
Q702
R709 4.7K
C631 10μ/16V
C632 0.01
R705 4.7K
R708 100K
R805
R808
Q812
Q802
R809
R806
R614 10K
L-CH
CNS7
CNP7
R/P HEAD
R-CH
R801
Q801
C801
C804
R803
SVR801
R802
C806
C802
C803
C805
R804
C808
R807
R685 10K
SVR804
SVR704 100KB
C817
C717 470P
C608 470P
BIAS OSCILLATOR
Q627、Q628 2SC536AUD G
BIAS OSCILLATOR CONTROL
Q904 2SD734G
S3
L601
R608 12K
C603 0.0033
R916 10
R601 2.7K
Q622
Q619
R917 220
R602 1K
E. HEAD
CNS2
CNP2
C607 100P
C606 0.01
C604 0.033
Q627
C602 0.0068
C923 47μ/16V
C601 0.22μ/50V
SVR601 Nor
SVR602 CrO2
Q623
R684 47K
R682 1.2K
R683 10K
R681 68K
R680 10K
R679 10K
R676 47K
C920 47μ/16V
R610 3.3
Q628
C605 0.0033
R609 12K
Q625
Q624
R607 33K
C621 0.001
Q621
Q620
R677 10K
R678 10K
C613 1μ/50V
Q623 2SC536AUD G BIAS OSCILLATOR CONTROL
Q624 2SC536AUD G BIAS OSCILLATOR CONTROL (CrO2)
Q625 2SC536AUD G BIAS OSCILLATOR CONTROL (NORMAL)
R605 4.7K
R603 4.7K
Q619 2SA933S
Q620、Q621 2SC536AUD G
Q622 2SA1038S
RECORD SWITCH DRIVER
IC702 BA3706 AMSS
R692 220K
R693 220K
1/2 Vcc
FIL TER
COMP
AMP
Vreg
MUTE
R
S
Q̄
1/2 Vcc
C919 47μ/16V
R695 27K
R687 10K
R920 560
C616 0.47μ/50V
C617 0.47μ/50V
C615 2.2μ/25V
C618 0.47μ/50V
C619 33μ/16V
C620 0.47μ/50V
R694 56K
R686 10K
R689 10K
R691 10K
Q629
Q630
R690 82K
D631 1SS133
VOLTAG INDICATE IN REC/PLAY (V)
Q629、Q630 2SC536AUD G
AMSS DRIVER

Sango 106

AGRAM (AMP 1)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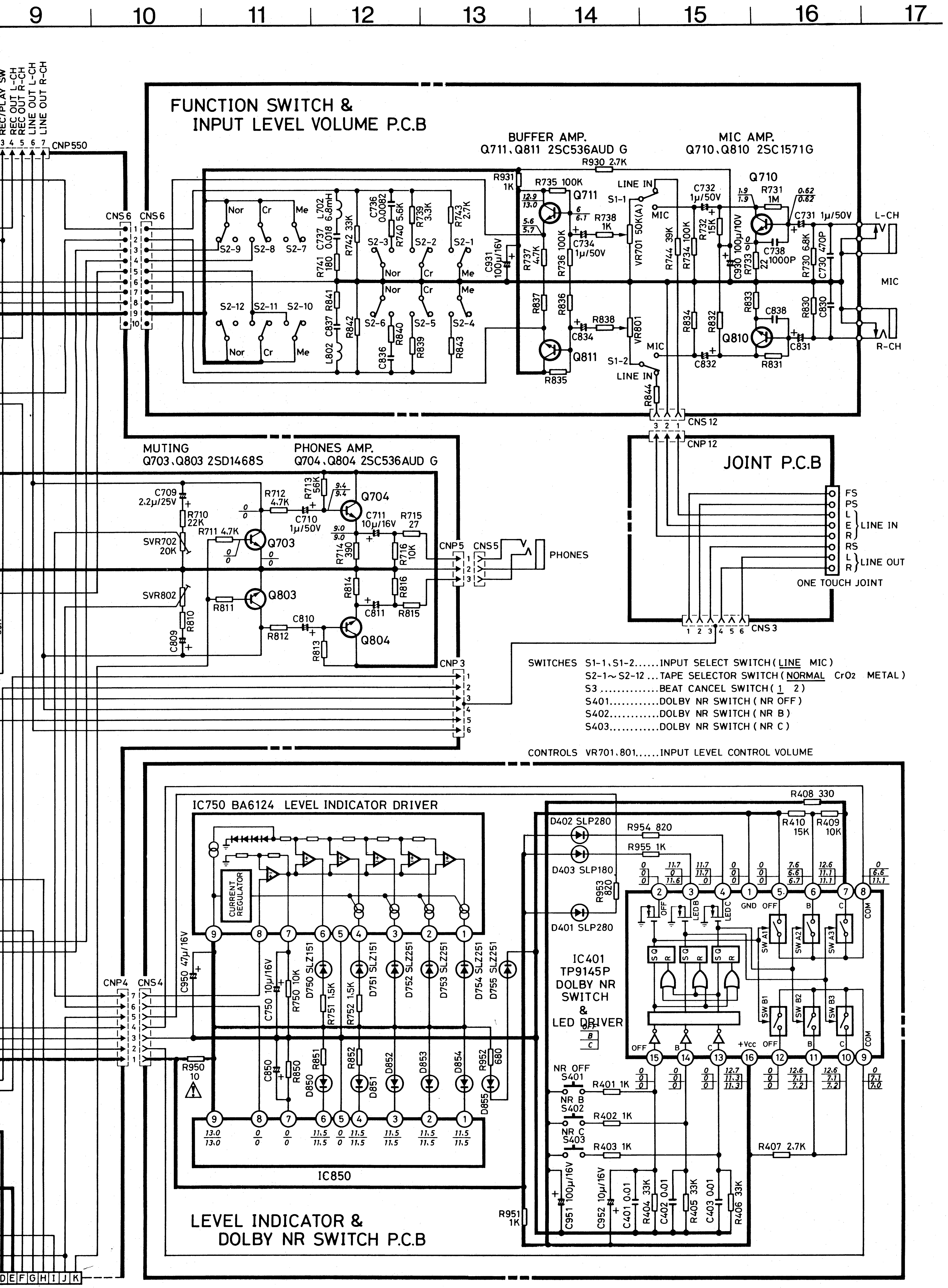
14
FUNCTION SWITCH &
INPUT LEVEL VOLUME P.C.B
BUFFER AMP.
Q711、Q811 2SC536AUD
AMP.
2SC536AUD G
RECORD MUTING
Q705、Q805 2SD1468S
CNP500
CNP550
REC IN L
+Vcc
REC IN R
GND
PLAY IN R
GND
PLAY IN L
MPX
NR SW OFF/B/C
REC/PLAY SW
REC OUT L-CH
REC OUT R-CH
LINE OUT L-CH
LINE OUT R-CH
CNS6
RECORD
MUTING
Q712、Q812
2SC536AUD G
TAPE EQUALIZER
EXCHANGE
Q702、Q802
2SC536AUD G
MUTING
Q703、Q803 2SD1468S
PHONES AMP.
Q704、Q804 2SC536AUD G
PHONES
CNP5
CNS5
CNP3
SWITCHES S1-1、S
S2-1~
S3 ....
S401..
S402..
S403..
CONTROLS VR701.
OR CONTROL
Q619 2SA933S
Q620、Q621 2SC536AUD G
Q622 2SA1038S
RECORD SWITCH DRIVER
IC750 BA6124 LEVEL INDICATOR DRIVER
CURRENT REGULATOR
IC850
LEVEL INDICATOR &
DOLBY NR SWITCH P.C.B
IC401
TP9145P
DOLBY NR
SWITCH
&
LED DRIVER
D402 SLP280
D403 SLP180
D401 SLP280
NR OFF S401
NR B S402
NR C S403
CNP4
CNS4
MUTE
1/2 Vcc
D631 1SS133
A B C D E F G H I J K


9
10
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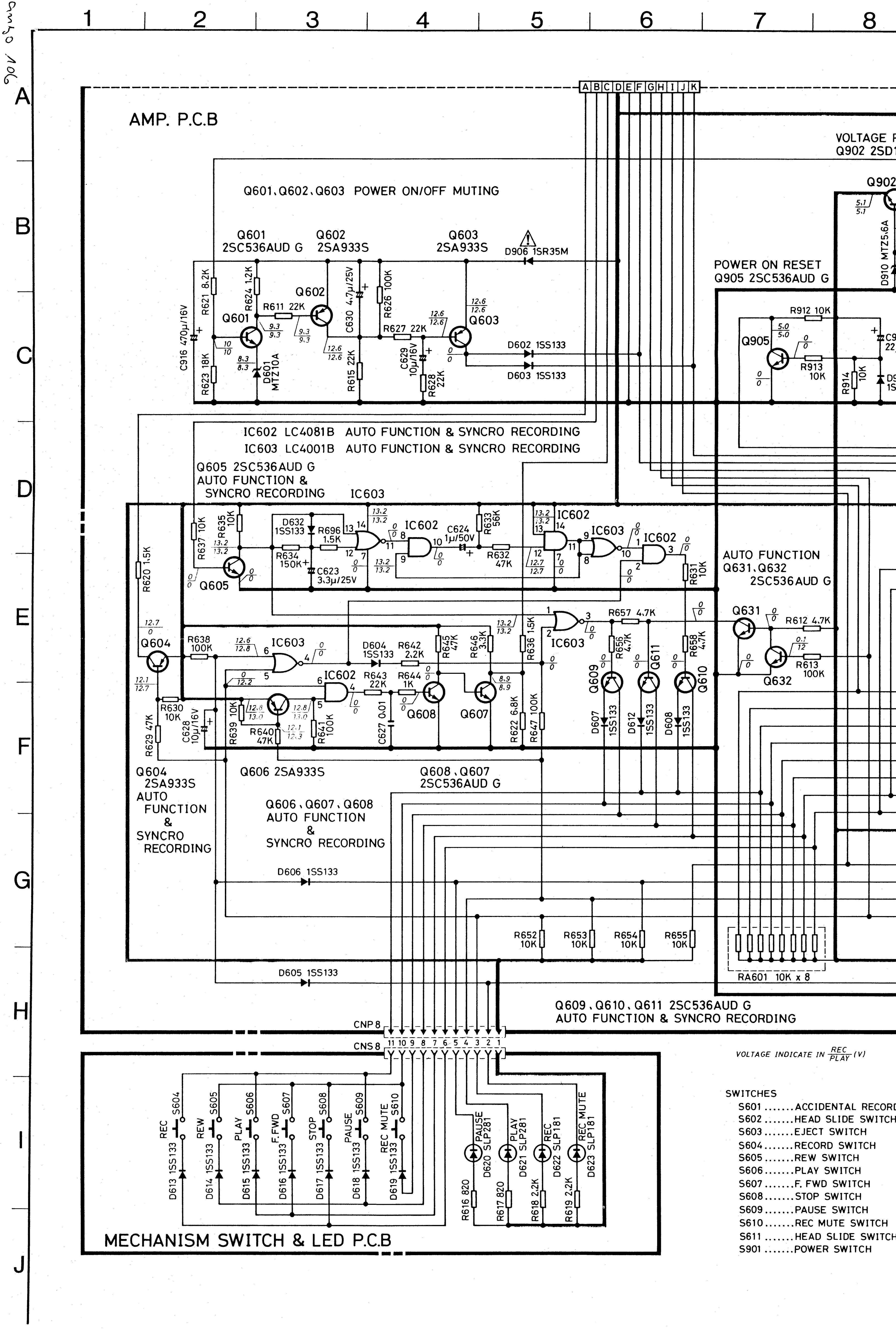
15
16
17
REC/PLAY SW
REC OUT L-CH
REC OUT R-CH
LINE OUT L-CH
LINE OUT R-CH
CNP550
FUNCTION SWITCH & INPUT LEVEL VOLUME P.C.B
BUFFER AMP.
Q711、Q811 2SC536AUD G
MIC AMP.
Q710、Q810 2SC1571G
R930 2.7K
R931 1K
R735 100K
Q711
LINE IN
S1-1
MIC
C732 1μ/50V
Q710
R731 1M
C731 1μ/50V
L-CH
CNS6
Nor
Cr
Me
S2-9
S2-8
S2-7
L702 6.8mH
C736 0.0082
R739 3.3K
R743 2.7K
C737 0.018
R742 33K
R740 5.6K
S2-3
S2-2
S2-1
R741 180
C931 100μ/16V
R737 4.7K
R736 100K
R738 1K
C734 1μ/50V
VR701 50K(A)
R744 39K
R734 100K
R732 15K
C930 100μ/10V
R733 22
C738 1000P
R730 6.8K
C730 470P
MIC
S2-12
S2-11
S2-10
R841
L802
C837
R842
S2-6
S2-5
S2-4
R840
R839
R843
C836
R837
R836
R838
C834
VR801
R834
R832
R833
C838
R830
C830
Q810
C831
R-CH
Q811
S1-2
C832
R831
R835
R844
CNS12
CNP12
JOINT P.C.B
FS
PS
L
E
R
LINE IN
RS
L
R
LINE OUT
ONE TOUCH JOINT
CNS3
MUTING
Q703、Q803 2SD1468S
PHONES AMP.
Q704、Q804 2SC536AUD G
C709 2.2μ/25V
R710 22K
R711 4.7K
SVR702 20K
R712 4.7K
R713 56K
C710 1μ/50V
Q704
C711 10μ/16V
R715 27
Q703
R714 390
R716 10K
CNP5
CNS5
PHONES
SVR802
R810
C809
R811
Q803
R814
R816
C811
R815
C810
R812
R813
Q804
CNP3
IC750 BA6124 LEVEL INDICATOR DRIVER
CURRENT REGULATOR
C950 47μ/16V
C750 10μ/16V
R750 10K
D750 SLZ151
R751 1.5K
R752 1.5K
D751 SLZ151
D752 SLZ251
D753 SLZ251
D754 SLZ251
D755 SLZ251
CNP4
CNS4
R950 10
C850
R850
R851
D850
R852
D851
D852
D853
D854
R952 680
D855
IC850
R408 330
D402 SLP280
R954 820
R410 15K
R409 10K
D403 SLP180
R955 1K
R953 820
D401 SLP280
GND
OFF
B
C
COM
LED B
LED C
SW A1
SW A2
SW A3
SW B1
SW B2
SW B3
IC401 TP9145P DOLBY NR SWITCH & LED DRIVER
+Vcc
NR OFF S401
R401 1K
NR B S402
R402 1K
NR C S403
R403 1K
R407 2.7K
R951 1K
C951 100μ/16V
C952 10μ/16V
C401 0.01
R404 33K
C402 0.01
R405 33K
C403 0.01
R406 33K
LEVEL INDICATOR & DOLBY NR SWITCH P.C.B
D E F G H I J K

SWITCHES S1-1、S1-2.......INPUT SELECT SWITCH (LINE MIC)
S2-1～S2-12 ... TAPE SELECTOR SWITCH (NORMAL CrO2 METAL)
S3 ....BEAT CANCEL SWITCH (1 2)
S401............DOLBY NR SWITCH (NR OFF)
S402............DOLBY NR SWITCH (NR B)
S403............DOLBY NR SWITCH (NR C)

CONTROLS VR701、801......INPUT LEVEL CONTROL VOLUME

D50 (EUROPE) SCHEMATIC DIAGRAM (AMP 2)

Sanyo 106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A
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C
D
E
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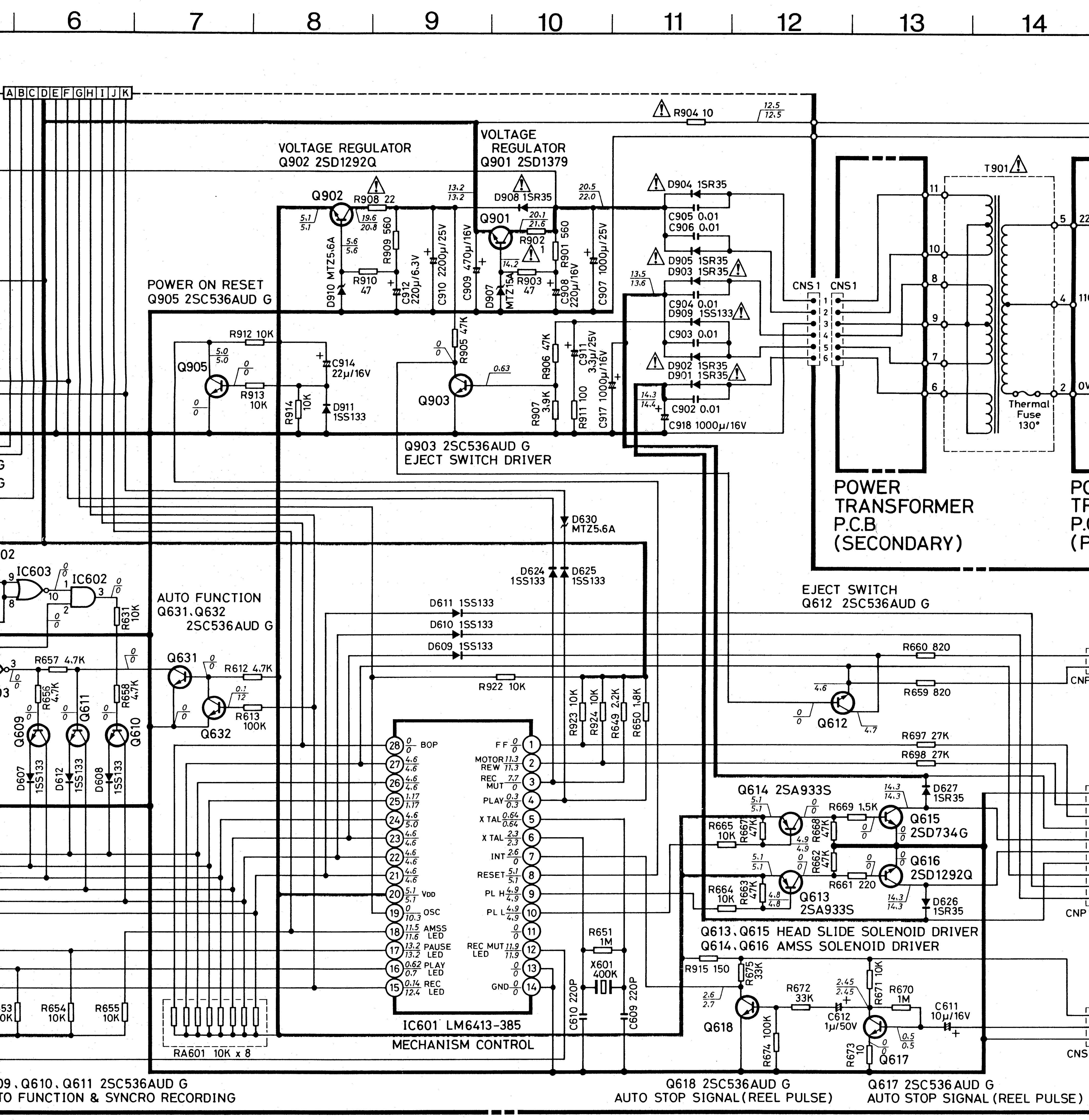
G
H
I
J
A B C D E F G H I J K
AMP. P.C.B
VOLTAGE F
Q902 2SD1
Q902
Q601, Q602, Q603 POWER ON/OFF MUTING
Q601 2SC536AUD G
Q602 2SA933S
Q603 2SA933S
D906 1SR35M
D910 MTZ5.6A
POWER ON RESET
Q905 2SC536AUD G
R621 8.2K
R624 1.2K
R611 22K
C630 4.7μ/25V
R626 100K
R627 22K
C916 470μ/16V
R623 18K
D601 MTZ10A
R615 22K
C629 10μ/16V
R628 22K
D602 1SS133
D603 1SS133
R912 10K
R913 10K
R914 10K
IC602 LC4081B AUTO FUNCTION & SYNCRO RECORDING
IC603 LC4001B AUTO FUNCTION & SYNCRO RECORDING
Q605 2SC536AUD G
AUTO FUNCTION &
SYNCRO RECORDING
IC603
IC602
D632 1SS133
R696 1.5K
R634 150K
C623 3.3μ/25V
C624 1μ/50V
R633 56K
R632 47K
R637 10K
R635 10K
R620 1.5K
R631 10K
AUTO FUNCTION
Q631, Q632
2SC536AUD G
Q631
Q632
R612 4.7K
R613 100K
R657 4.7K
R656 4.7K
R658 4.7K
Q604
R638 100K
D604 1SS133
R642 2.2K
R645 47K
R646 3.3K
R636 1.5K
R643 22K
R644 1K
Q606
Q607
Q608
Q609
Q610
Q611
R630 10K
R629 47K
C628 10μ/16V
R639 10K
R640 47K
R641 100K
C627 0.01
R622 6.8K
R647 100K
D607 1SS133
D612 1SS133
D608 1SS133
Q604 2SA933S AUTO FUNCTION & SYNCRO RECORDING
Q606 2SA933S
Q608, Q607 2SC536AUD G
Q606, Q607, Q608 AUTO FUNCTION & SYNCRO RECORDING
D606 1SS133
D605 1SS133
R652 10K
R653 10K
R654 10K
R655 10K
RA601 10K x 8
Q609, Q610, Q611 2SC536AUD G
AUTO FUNCTION & SYNCRO RECORDING
CNP8
CNS8
11 10 9 8 7 6 5 4 3 2 1
REC S604
REW S605
PLAY S606
F.FWD S607
STOP S608
PAUSE S609
REC MUTE S610
D613 1SS133
D614 1SS133
D615 1SS133
D616 1SS133
D617 1SS133
D618 1SS133
D619 1SS133
PAUSE D620 SLP281
PLAY D621 SLP281
REC D622 SLP181
REC MUTE D623 SLP181
R616 820
R617 820
R618 2.2K
R619 2.2K
MECHANISM SWITCH & LED P.C.B

VOLTAGE INDICATE IN $\frac{REC}{PLAY}$ (V)

SWITCHES

S601.......ACCIDENTAL RECORD
S602.......HEAD SLIDE SWITCH
S603.......EJECT SWITCH
S604.......RECORD SWITCH
S605.......REW SWITCH
S606.......PLAY SWITCH
S607.......F. FWD SWITCH
S608.......STOP SWITCH
S609.......PAUSE SWITCH
S610.......REC MUTE SWITCH
S611.......HEAD SLIDE SWITCH
S901.......POWER SWITCH

AGRAM (AMP 2)



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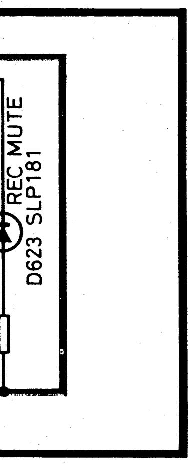
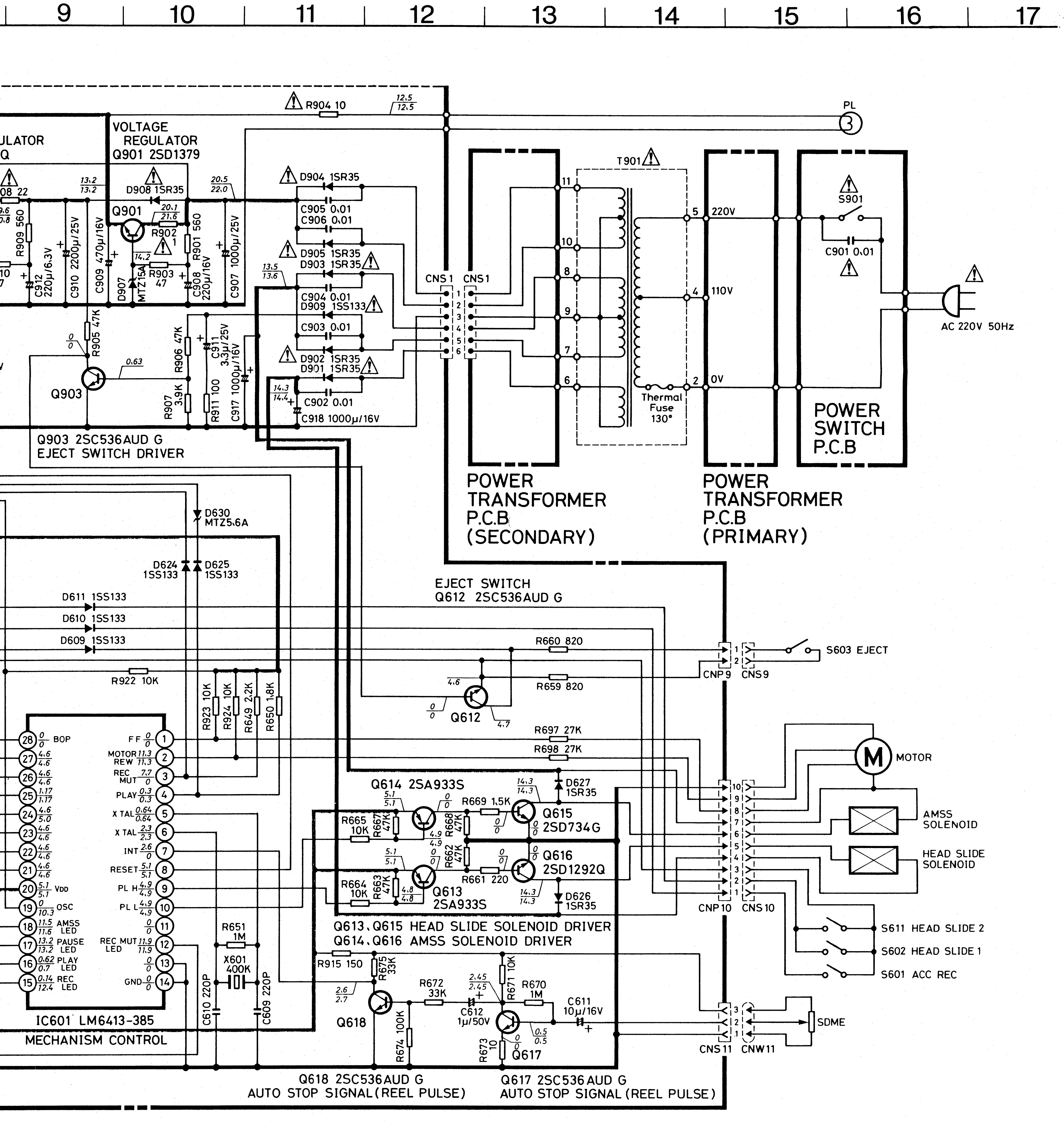
14
A B C D E F G H I J K
R904 10
VOLTAGE REGULATOR
Q902 2SD1292Q
VOLTAGE REGULATOR
Q901 2SD1379
Q902
R908 22
D908 1SR35
Q901
R902
R909 560
R901 560
D910 MTZ5.6A
R910 47
C912 220μ/6.3V
C910 2200μ/25V
C909 470μ/16V
D907 MTZ15A
R903 47
C908 220μ/16V
C907 1000μ/25V
D904 1SR35
C905 0.01
C906 0.01
D905 1SR35
D903 1SR35
C904 0.01
D909 1SS133
C903 0.01
D902 1SR35
D901 1SR35
C902 0.01
C918 1000μ/16V
CNS1
CNS1
T901
Thermal Fuse 130°
POWER TRANSFORMER P.C.B (SECONDARY)
POWER ON RESET
Q905 2SC536AUD G
R912 10K
Q905
C914 22μ/16V
R913 10K
R914 10K
D911 1SS133
R905 47K
Q903
R906 47K
C911 3.3μ/25V
R907 3.9K
R911 100
C917 1000μ/16V
Q903 2SC536AUD G
EJECT SWITCH DRIVER
D630 MTZ5.6A
D624 1SS133
D625 1SS133
IC603
IC602
R631 10K
AUTO FUNCTION
Q631, Q632 2SC536AUD G
Q631
R612 4.7K
Q632
R613 100K
R657 4.7K
R656 4.7K
R658 4.7K
Q609
Q611
Q610
D607 1SS133
D612 1SS133
D608 1SS133
D611 1SS133
D610 1SS133
D609 1SS133
R922 10K
R923 10K
R924 10K
R649 2.2K
R650 1.8K
BOP
VDD
OSC
AMSS LED
PAUSE LED
PLAY LED
REC LED
FF
MOTOR REW
REC MUT
PLAY
X TAL
X TAL
INT
RESET
PL H
PL L
REC MUT LED
GND
IC601 LM6413-385
MECHANISM CONTROL
R651 1M
X601 400K
C610 220P
C609 220P
RA601 10K x 8
R654 10K
R655 10K
EJECT SWITCH
Q612 2SC536AUD G
R660 820
R659 820
Q612
R697 27K
R698 27K
Q614 2SA933S
D627 1SR35
R669 1.5K
Q615 2SD734G
R665 10K
R667 47K
R668 47K
R662 47K
Q616 2SD1292Q
R661 220
R664 10K
R663 47K
Q613 2SA933S
D626 1SR35
Q613, Q615 HEAD SLIDE SOLENOID DRIVER
Q614, Q616 AMSS SOLENOID DRIVER
R915 150
R675 33K
R672 33K
C612 1μ/50V
R671 10K
R670 1M
C611 10μ/16V
Q618
R674 100K
R673 10
Q617
CNP
CNS
Q609, Q610, Q611 2SC536AUD G
AUTO FUNCTION & SYNCRO RECORDING
Q618 2SC536AUD G
AUTO STOP SIGNAL (REEL PULSE)
Q617 2SC536AUD G
AUTO STOP SIGNAL (REEL PULSE)



REC MUTE
D623 SLP181

VOLTAGE INDICATE IN $\frac{REC}{PLAY}$ (V)

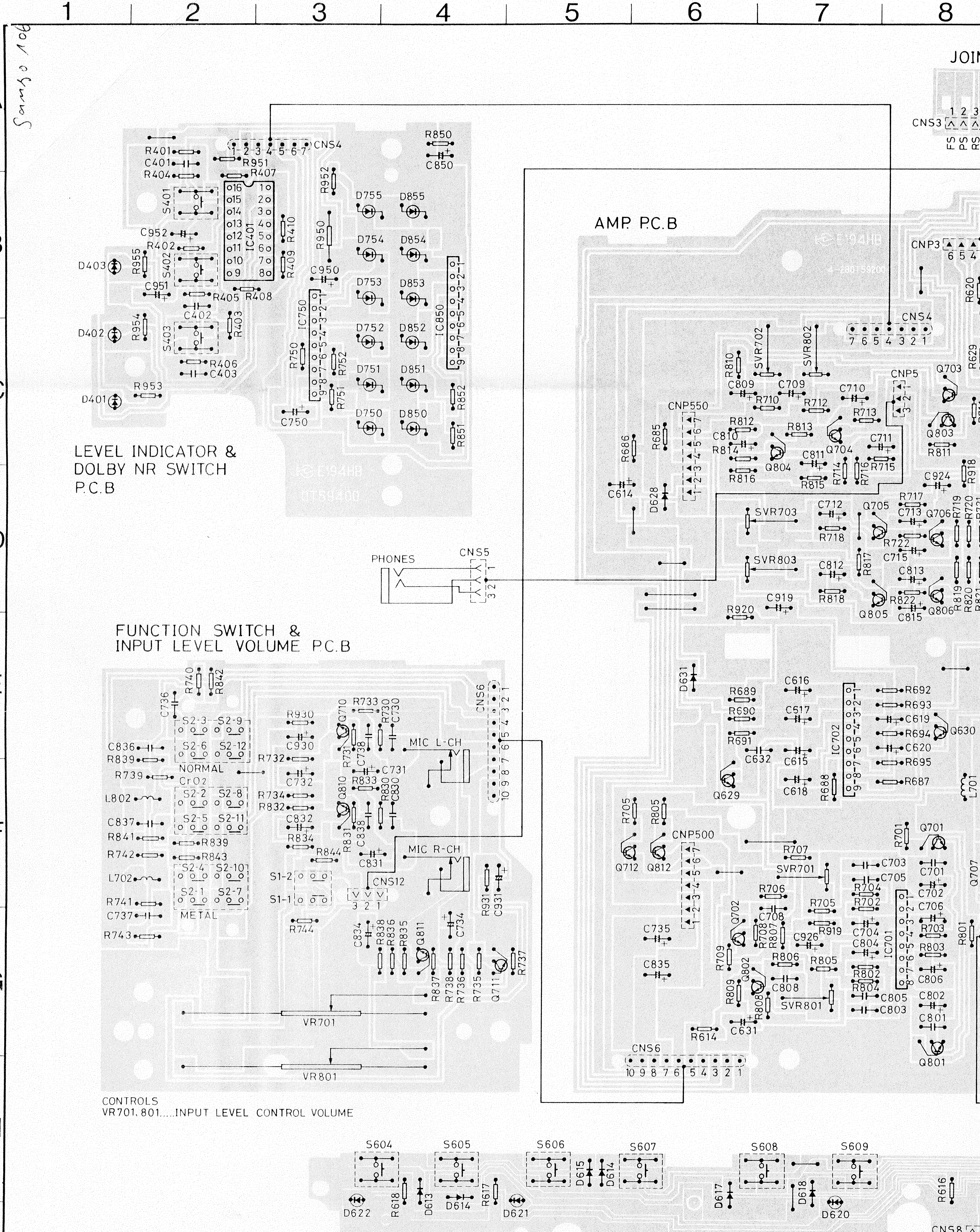
SWITCHES
S601.......ACCIDENTAL RECORD SWITCH
S602.......HEAD SLIDE SWITCH (1)
S603.......EJECT SWITCH
S604.......RECORD SWITCH
S605.......REW SWITCH
S606.......PLAY SWITCH
S607.......F. FWD SWITCH
S608.......STOP SWITCH
S609.......PAUSE SWITCH
S610.......REC MUTE SWITCH
S611.......HEAD SLIDE SWITCH (2)
S901.......POWER SWITCH


9
10
11
12
13
14
15
16
17
R904 10
12.5
12.5
PL
3
ULATOR
Q
VOLTAGE
REGULATOR
Q901 2SD1379
08 22
13.2
13.2
D908 1SR35
20.5
22.0
Q901
20.1
21.6
R902
1
R909 560
C910 2200μ/25V
C909 470μ/16V
D907
MTZ15A
14.2
R903 47
R901 560
C908 220μ/16V
C907 1000μ/25V
C912 220μ/6.3V
D904 1SR35
C905 0.01
C906 0.01
D905 1SR35
D903 1SR35
13.5
13.6
C904 0.01
D909 1SS133
C903 0.01
D902 1SR35
D901 1SR35
14.3
14.4
C902 0.01
C918 1000μ/16V
CNS1
CNS1
R905 47K
0
0
0.63
Q903
R906 47K
C911 3.3μ/25V
C917 1000μ/16V
R907 3.9K
R911 100
Q903 2SC536AUD G
EJECT SWITCH DRIVER
T901
11
10
8
9
7
6
5
4
2
220V
110V
0V
Thermal Fuse 130°
S901
C901 0.01
AC 220V 50Hz
POWER SWITCH P.C.B
POWER TRANSFORMER P.C.B (SECONDARY)
POWER TRANSFORMER P.C.B (PRIMARY)
D630 MTZ5.6A
D624 1SS133
D625 1SS133
D611 1SS133
D610 1SS133
D609 1SS133
R922 10K
EJECT SWITCH
Q612 2SC536AUD G
R660 820
R659 820
4.6
0
0
Q612
4.7
S603 EJECT
CNP9
CNS9
R923 10K
R924 10K
R649 2.2K
R650 1.8K
R697 27K
R698 27K
MOTOR
M
IC601 LM6413-385
MECHANISM CONTROL
28 BOP
27
26
25
24
23
22
21
20 VDD
19 OSC
18 AMSS LED
17 PAUSE LED
16 PLAY LED
15 REC LED
FF 1
MOTOR REW 2
REC MUT 3
PLAY 4
X TAL 5
X TAL 6
INT 7
RESET 8
PL H 9
PL L 10
11
REC MUT LED 12
13
GND 14
R651 1M
X601 400K
C610 220P
C609 220P
Q614 2SA933S
D627 1SR35
R669 1.5K
Q615 2SD734G
R665 10K
R667 47K
R668 47K
R662 47K
Q616 2SD1292Q
R664 10K
R663 47K
Q613 2SA933S
R661 220
D626 1SR35
14.3
Q613, Q615 HEAD SLIDE SOLENOID DRIVER
Q614, Q616 AMSS SOLENOID DRIVER
CNP10
CNS10
AMSS SOLENOID
HEAD SLIDE SOLENOID
S611 HEAD SLIDE 2
S602 HEAD SLIDE 1
S601 ACC REC
R915 150
R675 33K
R672 33K
C612 1μ/50V
R671 10K
R670 1M
C611 10μ/16V
2.45
2.45
2.6
2.7
Q618
R674 100K
R673 10
Q617
0.5
0.5
CNS11
CNW11
SDME
Q618 2SC536AUD G
AUTO STOP SIGNAL (REEL PULSE)
Q617 2SC536AUD G
AUTO STOP SIGNAL (REEL PULSE)

ITCH

D50 (EUROPE) WIRING DIAGRAM

Sanyo 106



1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
JOIN
CNS3
FS
PS
RS
LEVEL INDICATOR &
DOLBY NR SWITCH
P.C.B
AMP. P.C.B
CNS4
1·2·3·4·5·6·7
7 6 5 4 3 2 1
IC401
IC750
IC850
S401
S402
S403
D401
D402
D403
D750
D751
D752
D753
D754
D755
D850
D851
D852
D853
D854
D855
CNP3
CNP5
CNP550
CNP500
PHONES
CNS5
CNS6
CNS12
FUNCTION SWITCH &
INPUT LEVEL VOLUME P.C.B
NORMAL
CrO2
METAL
MIC L-CH
MIC R-CH
S1-1
S1-2
S2-1
S2-2
S2-3
S2-4
S2-5
S2-6
S2-7
S2-8
S2-9
S2-10
S2-11
S2-12
VR701
VR801
SVR701
SVR702
SVR703
SVR801
SVR802
SVR803
IC701
IC702
Q629
Q630
Q701
Q702
Q703
Q704
Q705
Q706
Q707
Q710
Q711
Q712
Q801
Q802
Q803
Q804
Q805
Q806
Q810
Q811
Q812
L701
L702
L802
E194HB
S604
S605
S606
S607
S608
S609
D613
D614
D615
D617
D618
D620
D621
D622
CNS8
MECHANISM SWITCH & LED P.C.B

CONTROLS
VR701, 801.....INPUT LEVEL CONTROL VOLUME

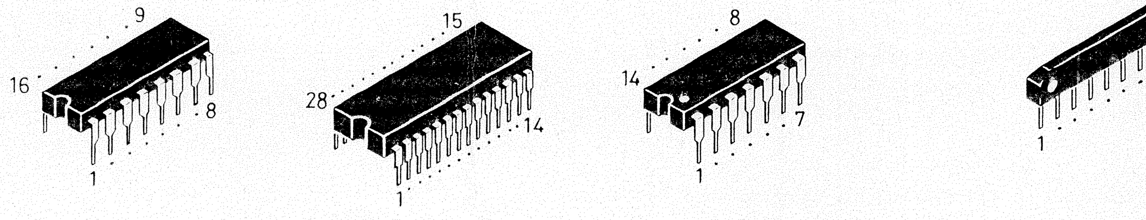
SWITCHES
S1-1, S1-2........INPUT SELECT SWITCH (LINE MIC)
S2-1~S2-12.....TAPE SELECT SWITCH (NORMAL CrO2 METAL)
S3...............BEAT CANCEL SWITCH (1 2)
S401............DOLBY NR SWITCH (NR OFF)
S402............DOLBY NR SWITCH (NR B)
S403............DOLBY NR SWITCH (NR C)
S601............ACCIDENTAL RECORD SWITCH
S602............HEAD SLIDE SWITCH (1)
S603............EJECT SWITCH
S604............RECORD SWITCH
S605............REW SWITCH
S606............PLAY SWITCH
S607............F.FWD SWITCH
S608............STOP SWITCH
S609............PAUSE SWITCH
S610............REC MUTE SWITCH
S611............HEAD SLIDE SWITCH
S901............POWER SWITCH

IC401.......TC9145P

IC601.......LM6413E

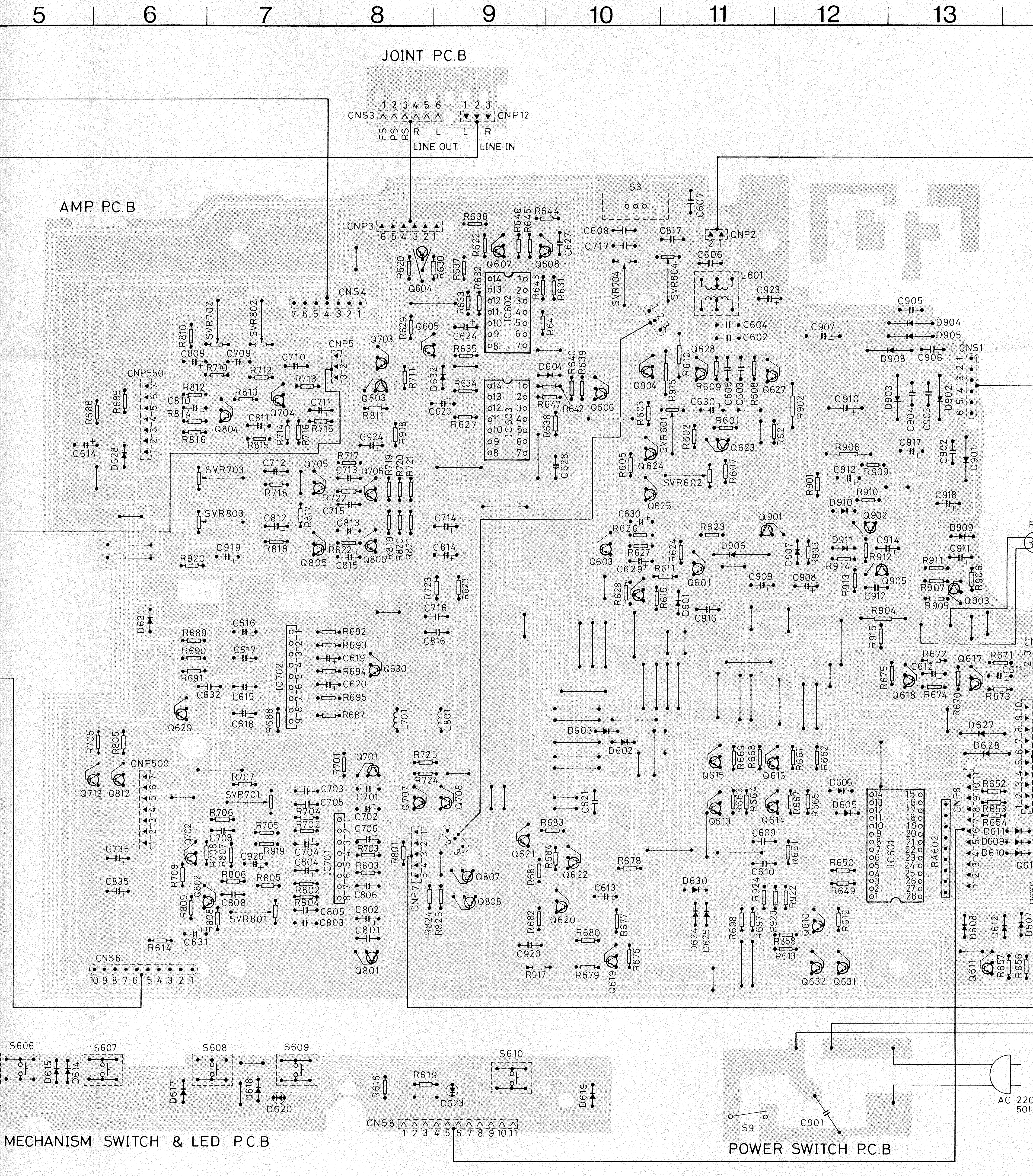
IC602.......LC4081B
IC603.......LC4001B

IC701.......LA316



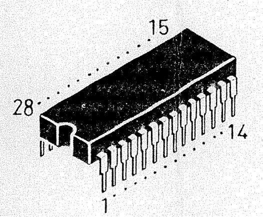
9
16
8
1
15
28
14
1
8
14
7
1
1

AGRAM

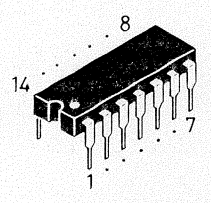


5
6
7
8
9
10
11
12
13
JOINT P.C.B
CNS3
1 2 3 4 5 6
FS
PS
RS
R
L
LINE OUT
CNP12
1 2 3
L
R
LINE IN
AMP P.C.B
CNP3
6 5 4 3 2 1
CNS4
7 6 5 4 3 2 1
CNP5
CNP550
CNP500
CNS6
10 9 8 7 6 5 4 3 2 1
CNP7
CNP2
2 1
CNS1
CNP8
S3
L601
L701
L801
IC602
IC603
IC702
IC701
IC601
RA602
SVR702
SVR802
SVR703
SVR803
SVR701
SVR801
SVR704
SVR804
SVR601
SVR602
S606
S607
S608
S609
S610
D615
D614
D617
D618
D620
D623
D619
R616
R619
CNS8
1 2 3 4 5 6 7 8 9 10 11
MECHANISM SWITCH & LED P.C.B
S9
C901
POWER SWITCH P.C.B
AC 220
50H

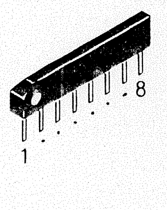
IC601.......LM6413E



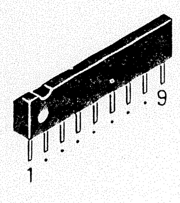
IC602......LC4081B
IC603......LC4001B



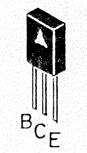
IC701......LA3160T



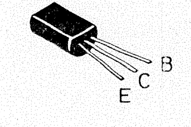
IC702..........BA3706
IC750, 850....BA6124



Q901.....2SD1379



Q902.....2SD1292

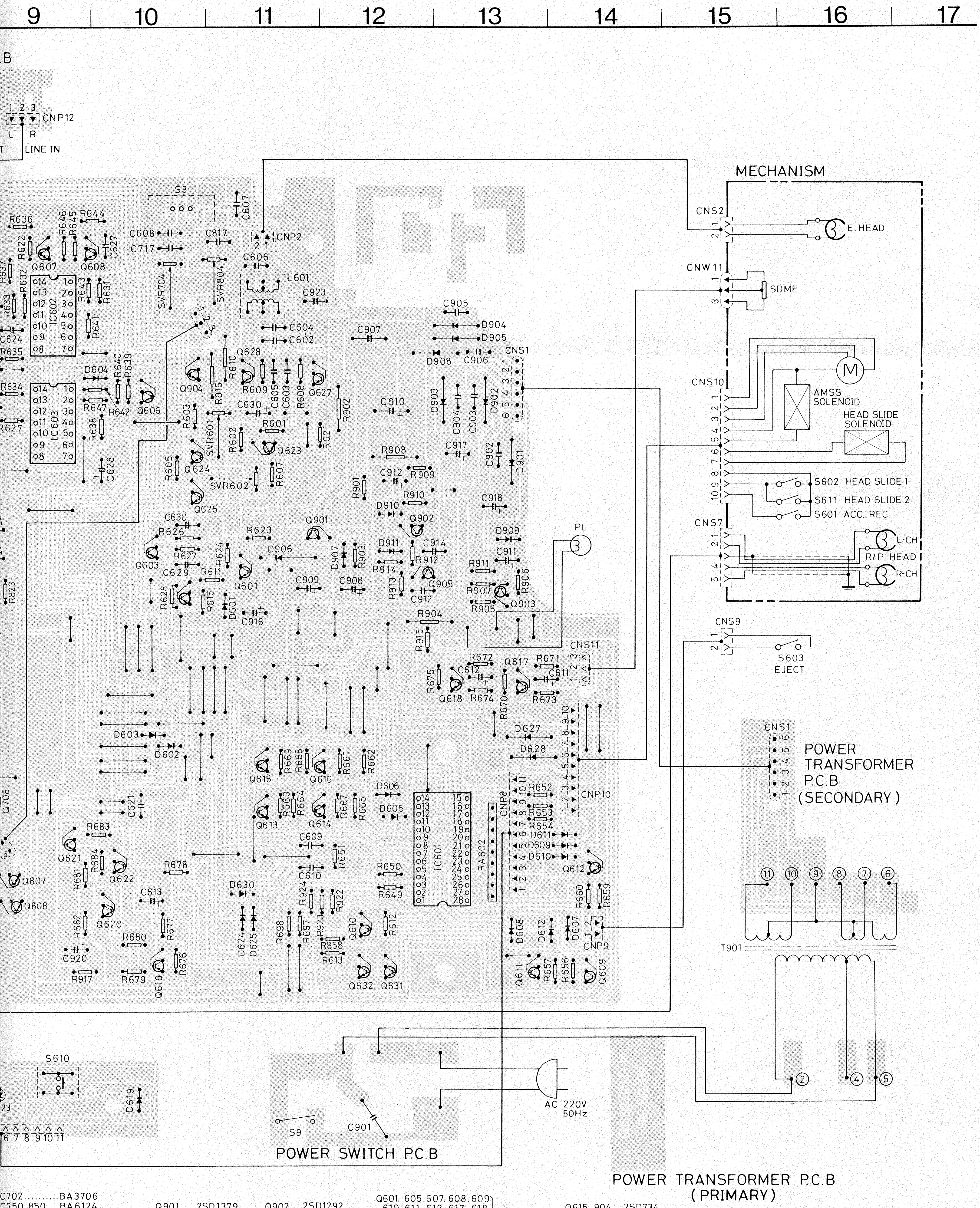


Q601, 605, 607, 608, 609
610, 611, 612, 617, 618
620, 621, 623, 624, 625
627, 628, 629, 630, 631 ....2SC536
632, 701, 702, 704, 706
711, 712, 801, 802, 804
806, 811, 812, 903, 905

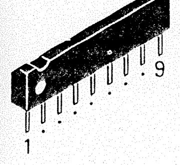
Q602, 603, 604, 606, 613
614, 619 ....2SA933

Q703, 705, 803, 805..........2SD1468
Q707, 708, 807, 808..........2SD1011

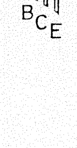
Q6
Q7
Q6
Q6


9
10
11
12
13
14
15
16
17
CNP12
LINE IN
MECHANISM
CNS2
E. HEAD
CNW11
SDME
CNS10
M
AMSS SOLENOID
HEAD SLIDE SOLENOID
S602 HEAD SLIDE 1
S611 HEAD SLIDE 2
S601 ACC. REC.
CNS7
L-CH
R/P HEAD
R-CH
CNS9
S603 EJECT
CNS1
POWER TRANSFORMER P.C.B (SECONDARY)
T901
IC602
IC603
IC601
RA602
CNS1
CNS11
CNP2
CNP8
CNP9
CNP10
L601
S3
PL
S610
S9
C901
POWER SWITCH P.C.B
AC 220V 50Hz
POWER TRANSFORMER P.C.B (PRIMARY)

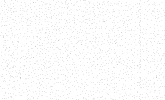
C702..........BA3706
C750, 850....BA6124



Q901.....2SD1379



Q902....2SD1292



Q601, 605, 607, 608, 609
610, 611, 612, 617, 618
620, 621, 623, 624, 625
627, 628, 629, 630, 631 ....2SC536
632, 701, 702, 704, 706
711, 712, 801, 802, 804
806, 811, 812, 903, 905
Q602, 603, 604, 606, 613
614, 619 ....2SA933
Q703, 705, 803, 805..........2SD1468
Q707, 708, 807, 808..........2SD1011

Q615, 904....2SD734
Q710, 810....2SC1571
Q616...........2SD1292
Q622...........2SA1038